SOUTH AMERICA.

"We now enter"—to use the words of Malte Brun—"upon the richest and most fertile,—the healthiest,—the most picturesque,—and, excepting Africa, the most extensive peninsula of the world." Geographical writers have assigned to that division of the western continent, which has received the name of South America, a superficial extent of 95,000 square leagues of 25 to an equatorial degree.

Nearly three-fourths of this expanse of country is contained in the torrid zone. Its greatest breadth is between Cape St Augustin, or Cape St Roqué, in the Brazils, and Cape Blanco, in Peru,—being a distance of 2,700 geographical, or 3,100 British miles. Its length, if calculated from Point Gallianas near Cape Vela, under the 12th northern parallel, to Cape Froward in Patagonia, under the 54th southern parallel, is 1,650 leagues; but it might be calculated at 4,850 British miles, as reaching to Cape Horn in Terra del Fuego, in 56° S. lat., for the islands which compose Terra del Fuego are so closely attached to the continent itself, that, in looking at the map, the eye can scarcely perceive the distinction.

The physical geography of this great peninsula is of a simple and uniform nature. A plateau, generally elevated 10,000 feet, and crowned by chains and peaks of insulated mountains, forms the whole western region of South America. To the E. of this tract, there is an expanse of country two or three times broader, composed of marshy or sandy plains which are intersected by three immense rivers, with their numerous branches, and a number of minor streams. Still farther to the E. rises another high land, less elevated and of less extent than the western plateau. These three physical regions constitute the whole of the South American peninsula.

The Andes.] The Andes—which derive their name from the Quichuan word *anta*, signifying 'copper,' and originally applied to a chain in the vicinity of Cusco, or, according to others, from the *Antis*, an Indian tribe which dwelt to the E. of Cusco—form an immense rampart crowned by other mountains, and running parallel to the western shores of this continent, from Cape Froward in the straits of Magellan to the isthmus of Darien, that is from 55° 54′ S. lat. to 9° 25′ N. lat. Narrow towards the southern extremity, it all at once becomes broader to the N. of Chili. Near Potosi and the Titicaca lake, it attains its greatest breadth; at Popayan it divides into several chains. In Patagonia, from Cape Froward to the 41st southern parallel, this mountain-system is known by the name of the *Sierra Nevada de los Andes*; in Chili it bears the name of the *Andes of Chili;* in Peru it is called the *Royal cordillera of the Andes*, or the *Grand cordillera of Peru;* from the northern frontier of Peru to the 2d parallel of north latitude, it is called the *Chain of*

Quita; and in Colombia it receives its name from the districts through which it passes.

The Patagonian chain.] The Patagonian Andes are little known. They intersect the country from N. to S.; and are represented to be of great elevation. As they approach the Chilian frontier, they advance towards the ocean, and seem to throw out branches which, rising again under the sea, form the archipelago of Guaytecas.

Chilian Andes.] The belt of the Andes in Chili is of great breadth, being stated by Molina at 120 miles. Their perpetual snow renders them a sublime and interesting spectacle to the inhabitants of the plains. Between the 24th and 33d degrees of S. lat., the Andes are wholly desert; south of that parallel, they are studded with little vales and excellent pastures, delightfully watered with a superabundance of streams which roll down from their stupendous rocks and transverse ridges.

Peruvian Andes.] Peru is traversed from north to south by the Andes in its whole extent. The main ridge, or Andes proper, is skirted by two parallel ridges, on its eastern and western sides, called the *Sierras*. At some distance from the Andes on either side, the vast upland plains, with their valleys, mountains, and rivers, would never enter into the imagination of the spectator, the central ridge only being observable; nor would he suspect the existence of those amazing precipices of profound depth, called *quebradas*, or breaks. The descent is here much more rapid on the western than on the eastern side of the Andes, where the slope declines more gradually into the great inland plains. As they proceed south from Quito into this country, the Andes spread out to a great breadth, being frequently divided into three parallel chains, forming in all a table-land of sometimes 150 miles in breadth; and the three chains being sometimes linked together by transverse chains, of which particular and remarkable portions have peculiar appellations. The high deserts, called *paramos* in Quito, are denominated *punas* in Peru. According to La Cruz's map, the exterior ridges of the Andes in the vicinity of Cusco and the lake of Titicaca, diverge to the length of 3½ degrees, or more than 240 miles, forming a semicircle, or half-moon, and containing a vast surface of high table-land, comprising in its bosom the lake of Titicaca. These uplands are the most elevated in all South America, and give birth to the Apurimac, the Beni, and other prodigious streams.[1]

Andes of Quito.] The Andes occupy a superficies of 5,400 miles, in the district of Quito. Whilst the immense savannahs at the back of the

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[1] Till very lately none of the peaks of this immense range had been measured but those in the presidency of Quito; and it was the generally received opinion, that the Andes attained their greatest height in the vicinity of Quito. This, however, has eventually proved to have been but unauthorized conjecture, as from Cape Horn all the way N. and N. W. to the peak of Tolima—a line of 60 degrees of a great circle—the number of summits actually measured was very small, and there was no reason, *a priori*, why those measured should have been esteemed the highest, merely because they were under the equatorial line. But the idea was long pertinaciously and keenly maintained, that the highest summits of all mountain-ranges must necessarily be under the equator; and that all mountain-chains must diminish in height as they recede from that line. This theory was completely disproved in the case of the Himalaya range, and the mountains of Tibet, which are from 28 to 30 degrees S. of that line; and has again been disproved by the labours of our countryman, Mr Pentland, who, in 1826 and 1827, explored the Andes of Titicaca in Upper Peru, in the modern republic of Bolivia, and measured the summits trigonometrically, and all the accessible heights by the barometer. These summits, especially in the vicinity of Cusco, had been previously esteemed the highest in the Andes by Mr Helms, who travelled all the way from Buenos Ayres to Lima; but as he had never seen those of Quito, it was impossible, from his relation, to form any comparison between the elevations of Chimborazo and Cayambe, and those of Sorata and Illimani.

Andes are distinguished by the appellation of *llanos*, the mountains are themselves distinguished by the Spanish appellations of *paramos* and *nevados*. These latter always enter into the region of perpetual snow, and are in this respect distinguished from the paramos, which do not signify heaths or deserts—as some by mistake have interpreted the term—but mountainous places covered with stunted trees, and exposed to the winds. On these paramos it never rains; snow falls frequently, but never lies above a few hours; the damp air is peculiarly and intensely cold. Of these paramos, that of Assuay is the highest, which, rising from 14,764 feet to 15,749 feet, unites, like an enormous dike, the eastern and western Andes. in the 3d degree of S. lat. 27 leagues to the south of Quito.

From this paramo, north to Quito, the Andes present the appearance of a longitudinal valley, lined with a constant succession of soaring summits on the east and west. What is called the valley or plain of Quito is actually the summit of the Andean ridge, whence these mountains rise, and of which the absolute height is from 8,860 to 9,515 feet. These mountains, though appearing only as so many insulated tops of this summit, when viewed from the distant plains, yet seem to the inhabitants of the central vale of Quito, as so many distinct mountains, rising amid a plain unclothed by forests; and are so arranged, that viewed from the central plain, far from hiding each other, they appear in their natural shape, as if projected in the azure vault of the equatorial sky. These elevated summits may be divided into three forms, more or less volcanic: 1*st*. The volcanoes which are yet burning, and have slender peaks of a conic form, as *Cotopaxi* and *Tunguragua;* 2*d*. Those with lengthened summits, which have sunk after a long series of eruptions, exhibiting ridges bristled with points, needles leaning in different directions, and broken rocks falling into ruins, such is the form of *Capac Urcu*, *Pichincha*, and *Carguairazo*. A 3*d* form, and the most majestic of the whole, is that of *Chimborazo*, which is circular. After the long rains of winter, when the transparency of the air has suddenly increased, Chimborazo presents a most magnificent spectacle, appearing from the shores of the South sea, like a white cloud at the edge of the horizon, detaching itself from the neighbouring summits, and soaring with commanding majesty over the whole chain of the Andes.

One principal feature of the high table-land of the Andes, is the comparative inequality of its surface. The plains of the Cordilleras, though placed at immense heights, and perfectly level, are not to be compared, in point of extent with those of New Spain. All the plains of New Granada and Quito, do not perhaps exceed 40 square leagues. Of difficult access, and separated from each other by profound valleys, they are very unfavourable for internal commerce; crowning insulated summits, they form as it were small islands in the midst of an aerial ocean. Such are the plains of *Bogota*, *Antisana*, *Tapia*, *Suniguiacu*, and *Caxamarca.* These plains are perfectly level, and the inhabitants have no suspicion of their extraordinary elevation. The plain of Antisana occupies a square of 12 leagues, surrounding the cone of that mountain, covered with eternal snow, and seeming like a small islet in its midst. This plain is 13,451 feet high; and the hamlet of Antisana, which lies at the foot of the cone, is 13,500 feet high, being probably the highest spot inhabited by man. Instead of a continued unbroken surface, as in the high land of New Spain, the table-land, or summit of the Andes is every where torn and interrupted by crevices like open furrows. These crevices, or transversal valleys, are called *quebradas*, or breaks, by the Spaniards; and present to the view precipices of amazing depth, sufficient to appal the firmest mind. They are frequently 2000 feet deep, with a stream generally running through the middle, and have their sides and bottom clothed with a vigorous vegetation. They affect the imagination of a European traveller much more powerfully than the majestic summits of Chimborazo and Cotopaxi, as the effect of these latter objects is weakened from their situation on such lofty bases as the plains of Tapia and Suniguiacu, while no diminution of this kind is suffered in the quebradas, or transversal valleys. Their depth in many places is such, that were Vesuvius and the Puy de Dome seated in these abysses, their summits would not exceed the nearest ridges. The valley of Ordessen, which descends from Mont Perdu, in the Pyrenees, is 2,950 feet deep; but those of *Chota* and *Cutaco* were found, by Humboldt's measurement, to be 4,920, and 4,260 feet deep, respectively; and their bottoms are only one-fourth less elevated than the passes of St Gothard and Mont Cenis, in the Alps. The construction of the Andes of Quito, is chiefly porphyritic. Farther south, the chain is composed of mica slate, resting on beds of clay. Granite does not predominate in the high summits as in those of the Old Continent.

From the geological composition of the Andes, granite still appears to be the oldest material of our globe. Next appears, resting on it as its basis, gniess; then mica slate, containing garnets; next primitive slate, with beds of native alum; now slate, mixed with horn blende; above this, greenstone, or primitive trap, followed by amygdaloid; and last, porphyry. Resting, or flanked against those primary rocks, beds of the older limestone begin to appear, followed by a suit of minerals, indicating organic remains, mica slate, horn blende, gypsum, and calcareous sandstone. The only formations which Humboldt did not meet with, were those of chalk, roestone, gray wacke, topaz rock, and the compound of serpentine with granular limestone, which occurs in Asia Minor. The grand ridge is every where covered with porphyry, basalt, phonolite, and greenstone, which being often broken into columns, appear like ruined castles, and produce a very striking effect. Near the base of the chain, two different sorts of limestone occur, one with a siliceous or flinty base, sometimes enclosing cinnabar and coal, and another mostly calcareous, and cementing the secondary rocks. These formations are of enormous thickness. Not only is coal found at the height of 8,650 feet above the level of the sea, as in New Granada; but even at the elevation of 14,700 feet, near Guanuco, in Peru. Fossil shells, which, in the Old Continent, have not been discovered higher than the tops of the Pyrenees, or 11,388 feet above the level of the sea, are found at Micuipampa, at an elevation of 12,800 feet; and again, at that of 14,120 feet, beside Huancavelica, where sandstone also appears. Basalt, which in Europe, is found, at its highest elevation, only on the summit of the Schneekoppe, in Silesia, 4,225 feet above the level of the sea, is found at the height of 15,500 feet in *the Andes of Quito. On the other hand, granite, which in Europe crowns the loftiest summits, is not found in America above 14,500 feet of absolute height: it is scarcely known at all, either in Quito, or Peru. The frozen summits of the highest peaks consists almost wholly of porphyry, which, on the flanks of the Andes, forms a mass of 10,000, or 12,000* feet in depth. The sandstone near Cuenca, is 5000 feet thick; and the stupendous mass of pure quartz, on the west of Caxamarca, measures 9,600 feet perpendicular. It is also remarkable, that the porphyry of these mountains very frequently contains horn blende, but never quartz, and seldom mica.

The Andes of Quito, with all their magnificence, want a feature which, in higher latitudes, contributes much to the beauty and sublimity of Alpine, Caucasian, and Himmalayan scenery, namely, the glaciers,—those icy belts dropping from the limits of constant congelation, and spreading in concrete sheets, or hanging in disjointed columns fantastically arranged. The fact is evidently owing to the almost uniform temperature which prevails near the equator. In these torrid regions, the days are constantly of the same length, and the sun shines throughout the whole year with very nearly equal force; the line of perpetual congelation is hence marked out on the sides of the Andes with singular precision. The temperature decreases regularly as one ascends them, till, at a certain elevation, it comes to the point of freezing, where the permanent field of snow begins to appear, and is defined with an almost unvarying border. Hence, that alternate thawing and freezing, so essential to the production of glaciers, is never known in equatorial, as in temperate latitudes.

The Llanos or *Plains.*] "There is something awful, but sad and gloomy," remarks the learned Humboldt, "in the uniform aspect of these steppes. Every thing seems motionless. Scarcely does a small cloud, as it passes across the zenith, and announces the approach of the rainy season, sometimes cast its shadow on the savanna. I know not whether the first aspect of the llanos excites less astonishment than that of the Andes. Mountainous countries, whatever may be the absolute elevation of the highest summits, have an analogous physiognomy; but we accustom ourselves with difficulty to the view of the *Llanos* of Venezuela and Casanare, the *Pampas* of Buenos Ayres and Chaco, which recall to mind continually, during journeys of 20 or 30 days, the smooth surface of the ocean. I had seen the plains of La Mancha in Spain, and the real steppes that extend from Jutland, through Luneberg and Westphalia, to Belgium; but the plains of the W. and N. of Europe present but a feeble image of the immense *llanos* of South America. All around us, the plains seemed to ascend toward the sky; and that vast and profound solitude appeared like an ocean covered with sea-weeds. According to the unequal mass of vapours diffused through the atmosphere, and the various temperature of the different strata of air, the horizon was, in some parts, clear and distinct, in other parts, undulating, sinuous, and as if striped. The earth was there confounded with the sky. Through the dry fog and strata of vapour, the trunks of palm-trees were discerned at a great distance. Stripped of their foliage and their verdant tops, these trunks appeared like the masts of a ship discovered at the horizon.

"The *llanos* and the *pampas* of South America are real steppes. They display a beautiful verdure in the rainy reason, but, in the time of great drought, assume the aspect of a desert. The grass is then reduced to powder, the earth cracks, the alligator and the great serpents remain buried in the dried mud, till awakened from their long lethargy by the first showers of spring. These phenomena are observed on barren tracks of 50 or 60 leagues in length, wherever the savannas are not traversed by rivers; for, on the borders of rivulets, and around little pools of stagnant water, the traveller finds at certain distances, even during the period of the great droughts, thickets of mauritia,—a palm the leaves of which, spread out like a fan, preserve a brilliant verdure.

"The chief characteristic of the savannas or steppes of South America is, the absolute want of hills and inequalities, the perfect level of every part of the soil. Accordingly, the Spanish conquerors, who first penetrated from Coro to the banks of the Apure, did not call them deserts, or savannas, or meadows, but plains, *llanos*. Often, in a space of 30 square leagues, there is not an eminence of a foot high. This resemblance to the surface of the sea strikes the imagination most powerfully, where the plains are altogether destitute of palm-trees, and where the mountains of the shore and of the Orinoco are so distant, that they cannot be seen, as in the *Mesa de Pavones*. A person would be tempted there, to take the altitude of the sun with a quadrant, if the *horizon of the land* were not constantly misty, on account of the variable display of refraction. This equality of surface is still more perfect in the meridian of Calabozo, than toward the east, between the Cari, La Villa del Pao, and Nueva Barcelona; but it reigns without interruption from the mouths of the Orinoco to La Villa de Araure and Ospinos, under a parallel of 180 leagues in length; and from San Carlos to the savannas of Caqueta, on a *meridian* of 200 leagues. It particularly characterises the new continent, as it does the low steppes of Asia, between the Borysthenes and the Wolga, between the Irtisch and the Obi. The deserts of central Africa, of Arabia, Syria, and Persia, Cobi, and Casna, present, on the contrary, many inequalities, ranges of hills, ravines without water, and rocks that pierce the sands.

"The llanos, however, notwithstanding the apparent uniformity of their surface, furnish two kinds of inequalities, that do not escape the observation of an attentive traveller. The first is known by the name of *Bancos:* they are real shoals in the basin of the steppes, fractured strata of sandstone or compact limestone, standing four or five feet higher than the rest of the plain. These *banks* are sometimes three or four leagues in length; they are entirely smooth, with a horizontal surface; their existence is perceived only by examining their borders. The second species of inequality can be recognised only by geodesical or barometric levellings, or by the course of rivers. It is called *mesa,* and is composed of small flats, or rather convex eminences, that rise insensibly to the height of a few toises. Such are, toward the E., in the province of Cumana, on the N of the Villa de la Merced and Candelaria, the *Mesas of Amana*, of *Guanipa*, and of *Jonoro*, the direction of which is S.W. and N.E.; and which, in spite of their inconsiderable elevation, divide the waters between the Orinoco and the northern coast of Terra Firma. The convexity of the savanna alone occasions this partition: we there find the *divortia aquarum* as in Poland, where, far from the Carpathian mountains, the plain itself divides the waters between the Baltic and the Black sea. Geographers, who suppose that there exists a chain of mountains wherever there is a line of division, have not failed to mark one in the maps, at the sources of the Rio Neveri, the Unare, the Guarapiche, and the Pao. Thus, the priests of Mongul race, according to ancient and superstitious custom, erect *oboes*, or little mounds of stone, on every point where the rivers flow in an opposite direction.

"The uniform landscape of the llanos, the extreme paucity of inhabitants, the fatigue of travelling beneath a burning sky and an atmosphere darkened by dust, the view of that horizon which seems for ever to flee before us, those lonely trunks of palm-trees which have all the same aspect, and which we despair of reaching because they are confounded with other trunks that rise by degrees on the visual horizon; all these causes combined, make the steppes appear far greater than they are in reality. The planters who inhabit the southern declivity of the chain of the coast, see the steppes extend toward the S., as far as the eye can reach, like an ocean of verdure. They know, that, from the Delta of the Orinoco to the province of Varinas, and thence, by traversing the banks of the Meta, the Guaviare, and the Caguan, they can advance 380 leagues in the plains, first from E. to W., and then from N.E. to S.E. beyond the equator, to the foot of the Andes of Pasto. They know, by the accounts of travellers, the Pampas of Buenos Ayres, which are also llanos covered with fine grass, destitute of trees, and filled with oxen and horses become wild. They suppose, according to the greater part of our maps of America, that this continent has only one chain of mountains, that of the Andes, which stretches from S. to N.; and they form a vague idea of the contiguity of all the plains, from the Orinoco and the Apure to the Rio de la Plata and the straits of Magellan."

RIVERS.] The majestic rivers of South America leave far behind them those of the Old world, both by the length of their courses, and the great breadth of their beds.

The Maranon.] Among these, the superb Maranon—by some called the *Amazon*—claims the first rank.

The eastern sierras, or mountains of secondary elevation, which, running parallel with the central or highest ridge and projecting branches far into the interior, serve as an immense buttress to the Andes, are covered with stately and eternal forests. In these vast and elevated woodlands, are the sources of those innumerable and mighty torrents, which, rushing down their woody slopes, and through the dark chasms and glens which sink between them, form, by their successive confluence, the majestic Maranon. The powers of description are unable to convey an adequate idea of the grandeur of this magnificent river; for, as the poet has sung,

Scarce the muse
Dare stretch her wing o'er this enormous mass
Of rushing waters; to whose dread expanse,
Continuous depth, and wondrous length of course,
Our rivers are but rills.

From the 3d degree of N. lat. to the 19th of S. lat.,—or from the source of the Cacaguana to that of the Madeira,—a space of 22 degrees in direct meridional distance, but of more than 2000 British miles by the windings and direction of the chain,—not a single stream descends the eastern side of the Andes, but what contributes to swell the ocean-flood of this river, which, for length of course and volume of water, has no parallel on the surface of our globe. The main trunk of this enormous stream, is composed of three principal streams, namely: the *Apurimac*, the *Beni*, and the *Tunguragua*, each of which has, at different times, been invested with the honours of the parent-stream. It is indeed but very lately, that the source of the Maranon or Amazon has been laid down with any thing like accuracy.[2] This is not at all surprising, as its head-waters are so numerous and so widely dispersed on the eastern face of the Andes, and the mountainous regions in which they lie have been so imperfectly explored. Even yet, notwithstanding the great additional information derived from the map of La Cruz, and the voyages of fathers Girval and Sobreviela abstracted by Estalla, its remotest source is by no means determined with the degree of accuracy necessary to remove all doubt. Till very lately, the *Tunguragua*, or river of *Lauricocha*, was regarded as the parent and principal stream, on the authority of father Fritz, or Frezier, a Jesuit missionary, who published a chart of its course, in 1707, in which the river of Lauricocha was represented as the true Maranon, while the *Ucaial* was regarded as an auxiliary stream.[3] The fact is, that the Apurimac, or Ucaial of the Jesuits, is a prodigious river, in a parallel where the Tunguragua, or river of Lauricocha, is unborn. It is not easy to decide whether the Apurimac, or the Beni, which joins it, are to be regarded as the remotest source of the Maranon, as the source of the latter is stated to be 2° 30′ farther south than that of the Apurimac; while, on the other hand, the greater direct course of the Beni is counterbalanced by the more winding course of the Apurimac, so that the actual length of its navigation is much greater than that of the Beni. Taking the Apurimac and the Beni, however, as the two parent and rival sources of the Maranon, we shall begin with the former.

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[2] All the old maps are grossly erroneous, and many inaccuracies are still to be found, even in new maps, as in that of La Cruz, where the river of *Jauja*, or the *Mantaro*, is denominated the true Maranon.

The *Apurimac*, or western source of the Maranon, according to La Cruz, rises in the intendancy of Cusco, to the S. of the mineral mountains of Cailloma, in S. lat. 16° 10′, and W. long. 71° 30′ at the foot of the most western ridge of the Andes which divides the district of Cailloma from the river and valley of Quilca, within 50 miles of the Pacific, in direct distance, and 12 miles to the N.E. of the city of Arequipa. The source is a small lake called *Vilque*. It is supposed, however, by others, to have its source still more remote,—perhaps in S. lat. 17°; for after being joined by the *Monigote*, or *Pariguana*, in Cailloma, not far from its source, it is so deep as to be impassable but by means of a bridge. After proceeding 180 British miles N.E., and receiving, besides the Monigote, the rivers of *Aconcagua*, *Cuero*, *Gallqui*, *Ocororo*, *Condoroma*, *Pichigua*, and *Chica*, proceeding from the heights of the province of Canes and Canches, it turns S.W. for the space of 60 miles, and thence to the N.W. till its junction with the Vilcamayo, a direct distance of 200 miles, receiving in this part of its progress, the *Pachachacha* on the south, after a course of 150 miles from the snowy heights of Huando, and through the province of Aimaraez and Abancay. The Pachachacha is composed of three streams, which unite in Aimaraez. A little below its confluence with the Pachachacha, the Apurimac receives from the S.W. the river *Pampas*, *Charcas*, or *Calcamayo*, in S. lat. 13° 10′, after a course of 160 miles direct distance from the Andes of Contisuyu. Eighty miles below this confluence, the Apurimac receives, in S. lat. 12° 15′, the *Vilcamayo*, denominated also the *Quillabamba*, and *Urubamba*, from the S.E.,—a river scarcely inferior to itself.

The *Vilcamayo*, according to Estalla, rises in S. lat. 16°, from the small lake of Villafro, in the province of Canes and Canches, in the narrow angle formed by the chain of Vilcanota and the metallic mountains of Cailloma, in the district of Collahuas. After running nearly 200 miles N.E. in a parallel direction with the Apurimac, from which it is separated on the W. by the ridge of Cailloma, and passing by the city of Tinta, and receiving the Cambapata from the ridge of Lampa, on the S.E., it turns to the N.W.; and then after passing by the districts of Quispichanche, Calca, Urubamba, and Vilcabamba, and receiving from the S.W. the river of *Cusco*, it joins the Apurimac after a comparative course of 420 miles.

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[3] The term *Ucaial* was not known in Peru, till 1687, when a dispute having arisen between the Jesuits of Quito and the Franciscans of Lima, concerning the village and mission of San Miguel de Conibos, situated on the Apurimac or Maranon, the Jesuits applied it to this latter stream in Fritz's chart, in order to gain possession of the village and mission from their adversaries, while they denominated the Tunguragua (a far inferior stream) the Maranon. The word merely signifies a confluence, and was applied (by the Indian tribe of Maynas) to the place where the Apurimac receives the Tunguragua.

A little below the confluence of the Apurimac and Vilcamayo, the former receives, from the W., the *Mantaro*, or river of *Jauja;* from the mountains of Huancavelica, in S. lat. 12° 6′. The Mantaro is a large and powerful stream, rising in the lake of *Chinchaycocha,* in S. lat. 11° 30′, immediately to the S. of the Guallaga, and to the W. of the source of the Pachitea, and has a very winding course of at least 400 miles. The Apurimac now turns to the N.E. for the space of 180 miles, when it is joined by the mighty stream of the Beni. In this part of its course, it receives, in S. lat. 11° 21′, the *Perene,* or river of *Tarma,* which rising in the heights of Tarma, two leagues W. of that town, falls into the Apurimac, after an eastern course of 200 miles. The great river *Paucartambo* rises in the chain of Vilcanota, and running to the E. of the Andes of Cusco, falls into the Apurimac, in S. lat. 10° 45′, after a meridional course of 240 miles.

Three leagues, or 9 miles below the confluence of the Apurimac and Paucartambo, the former is joined by the prodigious stream of the *Beni,* in S. lat. 10° 40′. From the source of the Apurimac, to this confluence with its rival and perhaps superior stream, the distance is 620 British miles. The Beni rises in the heights of Sicasica, near the town of that name, in the province of La Plata, and district of La Paz, in 18° 40′ S. lat. and 69° W. long., 100 miles to the S.E. of the lake of Titicaca, and within 120 miles of the coast. Its course is almost due N.; and it is augmented in its progress by a host of streams on either hand, till it enters the Apurimac with a stream more than 2 miles broad, and several fathoms deep, and with such power and force, as to propel the course of the Apurimac, for a considerable space toward the Andes. But such is the amazing grandeur of these streams, that this river of two miles in breadth is only a branch of the grand river Beni, which, in S. lat. 13° sends off a large arm into the lake of Rogagado, to the E.; whence issuing in three powerful streams,—the *Yutay,* the *Tefe,* and the *Coari,*—it pays a second prodigious tribute to the Maranon: and by a fourth branch, called the *River of Exaltation,* it pays another tribute to the Madeira. The lake of Rogagado is 30 miles long by 15 broad. From these combined circumstances, it would appear that the Beni ought to be regarded as the principal stream of the Maranon, both as having a longer direct course, and as being at least equal in magnitude, if not superior to the Apurimac at the confluence, after throwing off the above-mentioned powerful streams to the Maranon and the Madeira. The direct course of the Beni, is at least 660 miles, till its confluence with the Apurimac. Previous to this junction, the Beni is joined, in S. lat. 11° 30′, by the *Ynambari,* from the S.E., after a course of 300 miles.

After the junction of the Apurimac and Beni, the united stream receives the appellation of the *Apoparo,* or *Great Paro;* and bending to the N.W. receives in S. lat. 8° 26′, the *Pachitea* from the S., composed of numerous streams issuing from the Montana Real; and which, after a course of 200 miles direct distance, falls into the Apoparo, or Maranon. From the Perene to the Pachitea,—a direct distance of only 270 miles,—such is the number of streams descending from the Andes and their continuous ridges, that no less than 40 capital rivers, including the Beni and Paucartambo join the Apurimac within this space. From the Pachitea, in 8° 26′ S. lat. the Maranon bends its course to the N.E. for 350 miles in direct distance, but 900 miles by the course of the river; in this space it contains 132 islands, and is joined by a vast number of tributary streams on both sides, among which the *Aguaytia*, from the W., in 7° 35′, the *Manoa* in 7°, the *Saraiacu* in 6° 45′, and the *Tapichi* in S. lat. 5°, from the E., are the chief. The last runs parallel with the Maranon for 350 miles.

In S. lat. 4° 25′, and W. long. 71°, the Maranon receives the *Tunguragua* from the west, opposite the village of Joachim de Omaguas. At this celebrated confluence, the Maranon is divided into three branches, the chief of which is not less than 55 toises, or 352 feet deep. From the junction of the Tunguragua to that of the Beni, is 1200 miles by water, according to father Girval, though not above 600 in direct distance; and from thence to the source of the Beni, 600 miles in direct distance; and from the junction of the Beni to the source of the Apurimac, the distance is 620 miles. The Tunguragua rises in the lake of Lauricocha, in 10° 30′ S. lat. and W. long. 76° 30′, in the plains of Bombon. This lake is only a league long, and half that broad. Not far from its source the Tunguragua is 25 yards broad, and three feet deep when the river is low. Where it issues from the lake, there are large stones, well-wrought, about 4½ feet square, and placed at the distance of a yard, from one side to the other, the remains of a bridge of the Incas; and at a small distance is the royal road. The course of the Tunguragua, is for a short space N.E., and then N.N.W., which course it pursues as far as Jaen de Bracamoros, in S. lat. 5°, and W. long. 78° 40′, and 420 miles direct distance from its source. In its course to Jaen, it is augmented by several large streams on both sides: as the river of *Caxamarca*, from the N.W., and the *Hualata*, from the S.E. At Jaen it begins to be navigable for large boats; and is then joined by two large rivers, down one of which, namely, that from the N.W., Condamine descended to the Tunguragua. From Jaen, it bends its course N.E.; and, at four days' voyage from thence, Condamine found it 840 feet wide; and at one-third of its breadth from the shore, he found no bottom at a depth of 175 feet. Running to the N.E. as far as the Pongo, or narrow pass of Borja, where it leaves the mountains, it receives, from the Andes of Quito, the *St Jago*, or river of *Loja* and *Cuenca*, after a course of 60 leagues, from the N.W. Not far below the mouth of the St Jago, the Tunguragua passes the famous strait of Borja, where its breadth is suddenly reduced from 1800 feet to 150 feet, between two high walls of rock, where it runs with a rapidity calculated by Condamine at 9 miles an hour. Below Borja it receives the *Morrone*, after a course of 180 miles S.E. from the Paramo of Assuay; and a little farther down, the *Pastaca*, composed of numerous streams descending from the mountains, and rising to the W. of the volcano of Cotopaxi, falls into the Tunguragua, by three mouths—the chief entrance being 1200 feet broad—after a course of 400 miles. Forty miles below the Pastaca, the great river *Guallaga* enters the Tunguragua from the south, in S. lat. 5°, and W. 74° 30′, after a course of 500 miles. At the junction, the Guallaga is 1152 feet wide, and 180 feet deep; it is here divided into two branches, and a lake is formed, half a league broad, and 70 fathoms deep. For the space of a few miles the force of each river seems equal, but at length the Tunguragua overcomes the Guallaga. This latter stream, in

S. lat. 10° 57′, issues from the lake of *Chinquiacoba*, and is frequently denominated the river of *Guanuco*, which town it passes in S. lat. 10° 3′; receiving in its progress north, the *Monzon*, in S. lat. 9° 22′, from the W.; and in S. lat. 7° 10′, the *Moyobambo*. It rolls through a mountainous country, and with a precipitous course, forming many rapids, till at Ponguillo, it escapes the mountains and enters the plains, with a channel 1200 feet wide. Here it runs with serene majesty, and owing to its freedom from shallows and other impediments, is freely navigable; while its banks, covered with lofty palms and trees of every leaf, are enlivened by numerous birds of the richest plumage and most diversified song, forming a scene of enchantment. From Guanuco, where the Guallaga becomes navigable, to its junction with the Tunguragua, the sailing distance is 732 miles, which is usually accomplished in 15 days. After its junction with the Guallaga, the Tunguragua receives the *Tigris*—larger than its namesake of Asia—after a course of more than 300 miles. Twenty leagues below, and sixty from the mouth of the Guallaga, the Tunguragua falls into the Maranon, or Apoparo.

In S. lat. 3° 24′, the Maranon receives the *Napo*, rising at the eastern foot of Cotopaxi, and augmented by numerous streams, after a direct course of 500 miles. At its confluence, the Napo is 600 toises, or 3,830 feet broad; while the Maranon is 900 toises, or a mile and 480 feet wide, and of a prodigious depth. Below this junction, the breadth increases so much that a single arm or branch is frequently 900 toises broad, and the waves in a storm resemble those of the ocean. From this to the sea—which is at least 1,700 miles direct distance—the Maranon receives on the north, the *Iza Parana*, after a course of 800 miles from the vicinity of Pastos, besides above 30 other large rivers, amongst which is the *Caqueta*, or *Yupura*, a river of great magnitude, having a direct course of 900 British miles, in S. lat. 3°. Except the Rio Negro, this is the largest stream which joins the Maranon, and owing to its rapidity, it would be perfectly unnavigable, if the immense body of water which it rolls were not broken by numerous islands. A month's voyage above its mouth are falls and rivers. Condamine is wrong in saying that the Yupura enters the Maranon by eight channels, which, in consequence of his authority, have been so placed in all the late maps, except Arrowsmith's. Ribeiro, who officially visited the spot, in 1773, ascertained that it has but one mouth. The three channels above it are streams flowing out of the Maranon into the Yupura, called the *Auatiparana*, the *Manhama*, and the *Uasanapu*. These channels, which sully by their mixture the pure waters of the Yupura, greatly facilitate the navigation; there is here neither danger nor difficulty, boats glide in perfect safety with the current, or are impelled against it by the slightest touch of the oar. The four channels below the Yupura flow from two lakes. The Yupura is connected with the Iza Parana, and the Rio Negro, in the upper part of its course, by branches communicating with each.

The next stream of consequence is the famous *Rio Negro*, or *Black river*,—a stream of prodigious magnitude. It rises in N. lat. 2° 30′, and W. long. 74°, and runs a direct course of 1,260 miles. In the upper part of its course, it is called the *Ueyeneya;* its native appellation is *Guiari*. It is called the Black river by the Portuguese, from the darkness of its waters, which, because of their depth and clearness, appear of that colour, when compared with the turbid Maranon. It receives a host of streams; and communicating, on the one hand, with the Oroonoko, by means of the

Cassiquiari,—and on the other, by means of an arm, with the Yupura,—which again communicates in a similar manner with the Iza Parana,—a person may thus sail from the Maranon, to the respective mouths of these three rivers, and up these to the Oroonoko, and down that stream to its mouth, and thus encompass all Guiana without ever setting a foot on shore. The Rio Negro receives, not far from its mouth, the *Parima*, or *Rio Blancó*, from the N.E. after a course of 600 miles in direct distance. At the confluence, the conflict of the Rio Negro and Maranon is tremendous, the former rushing right across the channel of the latter; and for 20 leagues, the dark waters of the Rio Negro may be distinguished from those of the Maranon. At a little above the entrance—for it enters the Maranon by two mouths, thus forming an island—the Rio Negro is 1,203 toises, or nearly a mile and a half broad, at low water; and in different parts of its course it spreads to the width of 7 or 8 leagues.

Below this, numerous considerable rivers, from the mountains of Tumaracag, descend into the Maranon, but they are all of inferior importance to those already mentioned. Yet numerous and powerful as are the streams which, from the north, contribute to swell this torrent sea, those from the south are perhaps still more so. Among these are: 1*st,* The *Cassiquini.* 2*d,* The *Yavari.* 3*d,* The *Yutay,* a superior river to the *Yurucа,* by which it is succeeded, and which latter stream has a direct course of 420 miles, and a breadth of 360 toises, or upwards of 2,200 feet at its mouth. 4*th,* The *Tefe.* 5*th,* The *Coari:* each still more important than the other. The three latter streams issue from the lake of *Rogagado,* which is connected with the Beni by the river of Exaltation, and have each a N.E. course of 800 miles in direct length. 6*th,* In S. lat. 4°, and W. long. 63°, the Maranon receives the *Purus,* a stream little inferior to itself. This confluence is 180 miles, by the windings of the river, above where the Rio Negro enters the Maranon on the opposite side. At 8 leagues below the junction of the Purus and Maranon, and at least 1,000 miles direct distance from the mouth, the Maranon is 1,200 toises, or nearly a mile and a half broad, without islands; and here (says Condamine) I found no bottom with 103 fathoms line." 7*th,* The *Madeira,* or *Wood river,* so called from the vast quantity of this article which Texeira saw floating down its stream, enters the Maranon 110 miles below the Rio Negro.

This is the most important secondary river in South America, as to the length of its navigable course, and communication with the interior. The Madeira is composed of two main streams, the *Mamore,* and the *Guapore,* the former of which is the larger and longer stream. It rises on the eastern side of the eastern chain of the Andes, to the S.E. of the source of the Beni, and runs through the valley of Gupai el Grande, which is separated from the valley of Chuquisaca, and course of the Cachimayo, a tributary of the Pelcomayo, by the cordillera of Chuquisaca on the S., and by the snowy cordillera of Cochabamba on the N., which separates it from the beds of the Beni and the Mamore. It is here called the *Rio Grande,* and the *Guapaix,* and runs to the E.; it then takes a sweep round to the N. and N.W., piercing the eastern and lower prolongation of the cordillera of Cochabamba, and receives in its course the *Apere* or *San Miguel,* and the Mamore from the southern side of the same range, which latter stream communicates its name to the Rio Grande or Guapay. The *Sarare* and *Guapore* rise in the captaincy of Mato-Grosso, in the interior of Brazil, within 3 leagues of each other, in the Campos des Parecis, the highest ground in Brazil, and the southern limit of Mato-Grosso. This tract ends in a chain of mountains of the same name, extending 800 miles N.N.W. (the same probably with the cordillera of Cochabamba.) Thirsty, however, as the soil is, it is everywhere intersected with streams, along the course of which the horses find food during this difficult passage, and there the Tapajos, the Paraguay, and the Madeira, have some of their remotest sources. The Sarare is navigable from the place where it leaves its native mountains till it joins the Guapore. It is full of islands, with flooded savannahs on both sides, and it is covered with a species of floating weed, which must be cut away with hooks or hatchets before any boat larger than a canoe can pass. Its navigation is also much impeded with falling trees, undermined by the stream, or loosened by the inundations. Its breadth at its junction with the Guapore is 200 bracas, or Portuguese fathoms of 7 English feet 2-30 inches each, or 1,443 feet. It was on this stream that the first gold mines were found in 1734. Twelve miles below this junction is the town of Villa Bella, the capital of Mato-Grosso in 1753. The united stream is now called the *Itenas*: 12 days' sail below this place, and 64 English miles below the Ilha Grande, or Great Island, is the Setio das Pedras, the only high ground on the right bank. Farther down, a day and a half's sail, is the ancient Jesuit mission of San Miguel, —and 3 days' sail below this is the ancient mission of Santa Rosa, now called the fort of the prince of Beira,—and 3 days' sail below this again is the junction of the Guapore, or Itenas, with the Mamore, or 19½ days' sail below Villa Bella. Twenty miles below the ancient mission of San Miguel the Rio des Baures enters the Itenas,—and 3 days' sail below this confluence, on the left side, is that of the Ubay and Guapore. Ten days' voyage up the Ubay Magdalena, or Itonamas, as it is called in Arrowsmith's map, is the ancient reduction of Santa Maria Magdalena, which gave its name to the river. At the junction of the Mamore, and Guapore, or Itenas, the Mamore is 500 bracas, or 3,609 English feet broad, with a depth of 50 feet. The Itenas is still wider, but 3 feet of less depth, with a clear stream. The Mamore, on the contrary, is a turbid stream, and so rapid, that it rushes across its rival stream, and dashes it violently on the opposite bank. The confluent stream is now called the *Madeira*. Above the junction, the Mamore is so rapid, that crocodiles are unable to make way up the stream unless they swim very deep: 133 Portuguese leagues, or 532 British miles below the fort of the prince of Beira, are the great falls of the Madeira, 19 in number. The 18th cataract is the most formidable, the river being full half a mile wide, and augmented by the large stream of the Beni from the lake of Rogagado, called the river of Exaltation, and having a fall of 100 feet. This cataract, though not equal in height to that of Niagara, discharges more water than either it or that of the Missouri,—perhaps more than any known cataract in the world. At this fall is a portage of 3-4ths of a mile, very steep, and so injurious to the canoes from the laborious carriage, that it took 3 days' work to repair them when the Portuguese ascended the stream from the Maranon. The first of these falls, in ascending, causes a portage of one-third of a mile. Some other falls cause still greater difficulties, and a portage at the 5th fall occasions a labour of 4 days. From above the confluence of the Madeira and Beni, to the foot of the great cordillera, is a succession of falls and rapids, the former being 7 in number. At the junction of the Beni and Madeira, the former, like its rival stream, is turbid, and full 800 bracas, or 5,733 English feet broad. From such a vast accession of tributary water, we may judge what an immense body of fluid must be carried down the great cataract. 653 B. miles below this great fall is the town of Borba, containing 1,200 inhabitants in 1788, of which 1,000 were Indians of the Muras tribe. Here are plantations of tobacco and cacao, and a great tortoise fishery. These last seem innumerable, inexhaustible, and so large, that a full-grown one is a full load for two men. They are said to deposit *64 eggs in one hole. The oil, or butter, as it is called, when extracted is clarified, and used both for lamps and culinary purposes.* A third sort is *made from the fat of the belly*, and has been pronounced excellent even by those accustomed to the olive oil. Ninety-six miles below this town, the Madeira enters the Maranon by several mouths, thus forming a delta. The main or straight branch is 5,733 feet broad, and the adjoining country is low, swampy, and uninhabitable during the inundations of the Madeira, which at that season enters the Maranon with exceeding force of current. At Villa Bella the inundations of the Guapore rise 30 feet.' "The whole distance down the Madeira to the Maranon, from the fort of the prince of Beira, is 1,280 miles British. By the natives the Madeira is denominated Cuyari, and *Parana Miri*, or 'Small River,' to distinguish it from the Maranon, which they denominate *Parana Guru*, or 'the Great River.' 8*th*, The *Topayos*, or *Topaysu*, a stream of the first order, descending from the mineral mountains of Matto Grosso, in Brazil, and parted by a ridge from the source of the Paraguay, in S. lat. 13° 30′, falls into the Maranon, 120 miles below the Bosphorus, or strait of the river, after a comparative course of 800 British miles. 9*th*, The *Shingu* enters the Maranon, 300 miles below the mouth of the Topayos, by the course of the river, after an absolute course of 1,200 British miles from the Brazilian mountains. This stream is navigable two months' voyage up. At the junction, the Shingu is two leagues, or six miles broad; and that of the Maranon is so great, that the opposite bank cannot be seen. Below this, the Maranon divides into two great branches, the one going to the N.W., which is the largest, and running as far as Cape North; the other goes to the N.E., and communicates with the *Rio des Bocas*, by the strait of Tanajepuru. The latter river is formed by the junction of the *Guanapu* and the *Pacajas*, and is 6 miles broad. 10*th*, The Great Brazilian river, *Tocantin*, falls into the Grand Para branch of the Maranon, with an entrance still wider than that of the Rio des Bocas. This large stream is composed of the *Araguaya* and *Tocantin*, both of which, rising in 19° S. lat. and joining in 6° S. lat., run in one ample stream for 500 miles, till they enter the Grand Para, in 1° 40′ S. lat., and 20 leagues W. of the city of Para. The whole course of the Tocantin is 1,200 miles, exclusive of meanders; and it is navigable to a distance which requires three months to ascend. 11*th*, The *Muju*, which, "two leagues from its mouth, (says Condamine) I found to be 749 toises, or 4,790 feet broad, and on which I saw a Portuguese frigate sailing up its stream."

Below Para, the Maranon, with a strong current, and through a labyrinth of islands, by very broad and deep channels, enters the sea between Cape North and Punta el Baxos: the total breadth betwixt these two points being 180 British miles, and its depth 175 fathoms, or 1,050 feet; but if French fathoms, or toises, be meant—as is very probable—then the depth will be 1,152 English feet. With such violence does this enormous assemblage of waters enter the ocean, that it repels its waves, and carries its own stream pure and unmixed to the distance of more than 40 leagues.[4]

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[4] This circumstance is the more remarkable, as it is calculated, that from Obidos, 400 miles in direct distance from its mouth, the ground does not decline above four

The tide rises and falls from 30 to 36 feet, at the mouth of the river, according to Texeira; and only 10 feet, according to others. Near the mouth, the *bore* rises from 12 to 15 feet in height; and the noise of this watery eruption is heard at the distance of six miles. This effect—called *pororoca* by the natives—is chiefly observable at, and towards Cape North, on the mouth of the Arauari.

There are so many islands below where the Maranon divides itself to form the great island of Islos des Joannes, 175 miles long by 125 broad, that the entrances or passes between them amount to 84; so that it is exceedingly difficult to know the proper channel, and get into the main stream through these watery labyrinths. Everywhere, down its whole course, is this mighty stream studded with islands; very many of these are from 4 to 5 leagues in circumference,—not a few of 10 or 20,—and the great island of *Tupmambas* exceeds 100 leagues. Most, if not the whole of these, are overflowed with the freshes and swells which come on with the periodical rains, and which are very great. During the inundations, an extensive tract of country, for several hundred miles, is overflowed; many of its numerous islands change their situations at this season; others are formed by the new channels, which the river in its boundless impetuosity is wont to make for itself.

The banks of the Maranon are covered with immense and impenetrable woods, which afford a haunt to jaguars, bears, leopards, wild-boars, and an infinite variety of snakes and serpents. The river is deep at the very edge of the stream, without those sloping descents that characterize other streams; and it swarms with alligators, even as far up as Jaen de Bracamoros, and the Guallago. It is also stored with an infinity of fish and amphibious animals; amongst which the turtles are held in great esteem, and are reckoned the most delicious that are known. Land turtles also abound on all the adjacent shores; and the lakes and marshes which everywhere skirt the river swarm with fish during the periodical floods; when the river falls, they remain in these as so many natural reservoirs, where they are caught with the utmost ease.

From where the Maranon leaves the Andes to the sea, the vast country washed by its waters contains neither stone, nor minerals, nor metals of any kind. For the space of two months that Condamine sailed down its stream, not the smallest eminence was to be seen, till he beheld, at a great distance, the mountains of Tumucurag, in Guiana, running east and west.

As to the length of course of this noble river, as its course for more than one-third of its progress is from S.E. to N.W., it considerably exceeds the whole breadth of South America, even where widest. Condamine computed its navigation, from Jaen to the sea, at 1,000 marine leagues, or 3,000 geographical miles, equivalent to 3,460 British miles including the windings, on a direct line of 2,145 British miles; to which, if 420 be added for the course of the Tunguragua above Jaen, the direct length will be 2,565 British miles. But if the length be taken from the mouth of the Grand Para, or river of Belem, to the junction of the Maranon and Tunguragua, the distance, not including

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feet; and only 1,026 feet of descent from Jaen de Bracamoros, a direct distance of 1,860 geographical, or 2,145 British miles from the mouth; and at the falls of Rentema, at some distance above Jaen, the elevation of the ground is only 1,240 feet above the level of the sea.

the windings, is at least 1,840 British miles; and from that junction to the source of the Beni, is 1,260 British miles: total, 3,100 British miles. If to this be added the windings and sinuosities of its navigable course, from the innumerable islands with which its surface is studded, its absolute course cannot be less than 5,000 miles. "If the countries watered by its stream were peopled by industrious and commercial nations, ships of 500 tons might ascend it for upwards of 4,500 miles: a frigate of some force might awaken, with its artillery, the echoes of the stupendous Andes, and alarm those vast upland deserts, which the early discoverers of America, viewing as far beyond the din and stir of mortals, styled, in the play of imagination, 'the wilderness of supreme repose.' The extent of inland navigation opened up into the interior of South America, by the Maranon and its innumerable tributaries, far exceeds even that of North America, or of the Missouri with its numerous accessory streams. More than one-half of this vast continent might enjoy all the advantages of a maritime shore, from the numberless mighty streams which swell the vast volume of the Maranon; any of which would fertilize the deserts of Africa, and spread commerce and civilization through a wide spread empire. By the Rio Negro a communication is opened with the Oroonoko, and the Carribbean sea from the Maranon, (Guiana, begirt as it were on every side by connected streams and the ocean, resembles a vast continental island): by the Tunguragua, with Quito and Guayaquil; by the Apurimac, with Cusco; by the Guallago, with Lima; by the mighty Beni, with Potosi; by the Madeira, with the Beni; and with this latter, by the Yutay, Tefe, and Coari; by the Madeira, Shingu, and Tocantin, with the Paraguay, Parana, and the Atlantic; and by the Parima and other navigable streams, with Spanish, British, and Dutch Guiana.[5]

The cultivation of the fine country situated to the east of the Andes, and the wealth and prosperity of the settlers, depends on the free navigation of the Maranon. This liberty was denied by the Portuguese, who would not allow a Spanish vessel to go down the river below the Tefe, so that all communication between the coast and the country on the eastern declivity of the Andes, was carried on by post. The territory watered by the Maranon and all its branches, is at least equal in extent to continental Europe, and double that watered by the Missouri and its tributaries, being 2,500,000 square miles upon the most moderate calculation, comprehending the tract from the 20° of S. lat. to the 2° and 3° of N. lat., and from the 47° of W. long. at the mouth of the Grand Para, to Jaen, in 78° 30′, or 31½ degrees of longitude. Its navigable course possesses these advantages: it is never impeded with ice, as in the Upper Missouri,—there are no moving sands nor sand-bars in its whole course,—it is continuous throughout the whole year,—and it has no shelving shores to render it dangerous to vessels. Besides these advantages peculiar to the river itself, so strong an easterly wind always blows up the stream from the Atlantic, that vessels are even carried by it against the stream. Yet, notwithstanding these advantages, the majestic Maranon still rolls its mighty course through regions unknown to civilization and to fame; where fair science has never dawned with cheering rays, to dispel the gloom of savagism that broods on its shores; and where no native historian or bard has ever arisen to immortalize its stream. The Mincio and the Scamander, though insignificant streams, are immortalized by the strains of a Homer and a Virgil, and are therefore interesting to classical readers. But the mighty Maranon excites no other emotions than merely those which arise from the consideration of its magnitude; and no interesting associations, whether of poetry or politics, are connected with its name. The awful depth of its surrounding woods, and the terrific gloom that broods over its ocean swell, are probably the coevals of time; and, notwithstanding the ingenious geometrical ratios of Mr Malthus, there is reason to fear they will, to the last, remain its compeers.

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[5] The sources of the Guallago are only 4 or 5 leagues distant from those of the Rio Huaura, which runs into the Pacific ocean. The river of Jauja, or the Mantaro, rises near the source of the Rio Rimac, or River of Lima. The height of the Cordillera, and the nature of the ground, render the execution of a canal impossible; but a commodious road might be constructed from Lima across the intervening ridge to the Guallaga, which would facilitate the transport of goods to Europe. The great streams of the Guallaga and the Apurimac would carry, in little more than six weeks, the productions of Peru to the mouth of the Maranon; and, in three months, from Lima to Madrid: while a passage of four months is requisite to convey the same goods to the same point, in doubling Cape Horn. This new and striking route is thus illustrated. From Lima to Guanuco, on the Guallaga, 60 leagues, and eight days. From Guanuco to Playa Grande (the port), 30 leagues, four days' voyage. To the Moyobamba river mouth, 111 leagues, seven days' voyage. To Yurimaguas, 63 leagues, three days. To Laguna, at the junction of the Guallaga and Tunguragua, 40 leagues, a day and a night. From the mouth of the Guallaga to that of the Tefe, eight days, day and night. From the Tefe to the mouth of the Maranon, 15 days, day and night: in all 46 days from Lima to the mouths of the Maranon; the remaining 45 days are allowed for the voyage to Spain and journey to Madrid. But in the ascent, 59 days are required from the Tefe to the Guallaga: of these, 26½ days' voyage are required from Tefe to the port of Sapatinga, five leagues above the mouth of the Yavari, and the last settlement of the Portuguese on the south of the Maranon and frontiers of Peru. Thirty-two days and a half are employed in ascending from Sapatinga to the mouth of the Guallaga, the sailing distance being 234 leagues, or 702 geographical miles: namely, from Sapatinga to the mouth of the Napo, 312 miles; from thence to the junction of the Maranon and Tunguragua, 180 miles; and from thence to the mouth of the Guallaga, 210 miles: total, 702 miles. Twenty-seven days are required to mount the Guallaga, from Laguna to Playa Grande; from this to Guanuco, overland, four days; and from thence to Lima, eight days: total, from the Tefe to Lima, 98 days.

The Rio de la Plata.] The far-famed *Rio de la Plata,* or the River of Silver, holds the second rank in the list of South American streams. This mighty flood composed of the conjunct stream of the *Paraguay,* the *Parana,* and the *Uraguay,* receives into its capacious bosom all the waters that flow from the eastern declivity of the Chilian Andes, or that descend from the southern, south-western, and western faces of the Brazilian mountains. Of these, the Paraguay seems to have the most direct course;—the Parana is the largest stream,—while the Uraguay has the broadest channel. The Paraguay was long supposed to have its source in the lake of *Xarayes;* but the remotest sources of the Paraguay are in the forbidden diamond district of Mato-Grosso, rising at a place called the Seven Lakes, in the Sierra de Parry, where the country streams form the great river of Tapajos. These sources are in 14° S. lat. 56° W. long. There is a settlement in this district called *Arrayat Diamantino,* situated at the angle where the river of diamonds joins the river of gold, 3 leagues below its confluence with the Paraguay. This Arrayat is 30 leagues N.W. of Cuyaba. Its waters, during their course among the sierras, have a harsh and saltish taste, though they are beautifully clear, and cover their banks with a strong incrustation, so that the tree roots on their margin look like rock work. Having received the *Cipotuva,* which is the most northern source of the Plata, the *Cabacal,* and the *Jauru,* at its confluence with this last river, falling into it from the N.W. in S. lat. 16°, and 300 miles direct distance from its source, it commences the boundary between the old vice-royalty of Rio de la Plata, and the Portuguese possessions; all the tract S. from the Jauru, and E. from the Paraguay, belonging to the viceroyalty,—and the country to the W. of the Paraguay belonging to

Brazil as far down the stream as 22° S. lat. In 16° 43′, the Paraguay leaves the mountains, and enters the marsh of Xayrayes, so denominated from an Indian tribe whom Cabeza de Vaca found settled there, but which the Portuguese Paulists, who have frequently traversed all this part of the interior, call the flooded savannahs. In S. lat. 17° 50′, it receives the river *Cuyaba*, from the N.E., 96 leagues below the city of Cuyaba, a stream almost equal to itself in magnitude, and rising in the Brazilian mountains. Its course is constantly from N. to S.; and though its channel is in some places rather narrow, it is not interrupted by reefs or other obstacles, and is navigable for small craft to the 18th degree of S. lat. Eighteen miles below the city of Assumption, it receives the first mouth of the *Pilcomayo;* and 30 miles below that, it receives the second mouth of the same stream. In S. lat. 27°, it receives the *Rio Vermeyo;* and in S. lat. 27° 27′, and W. long. 58° 65′, it joins the Parana, after which the united stream is called the La Plata. From the source to this junction, the direct course of the Paraguay is 1050 British miles. It swells periodically during the season of the tropical rains,—its increase commencing about the end of February, and continuing to the end of June. Its waters then begin to decrease, and in the course of about four months they again fall down to their ordinary level. By the abundant and accumulated rains which fall from November to February, in the mountains to the northward, the Paraguay is so swelled, that its waters overflow its banks, and spreading themselves on all sides of the flat country, form the marsh of Xarayes, the length of which, although varied in proportion to the quantity of rain which falls, may in general be stated at 330 miles, by 120 in breadth. The inundations are at their height in June, when the marsh may be navigated by boats and small craft. The channel of the Paraguay is to be sought, at that season, among the floating islands of shrubs and trees which serve to block it up. The Indians inhabiting this marshy spot do not, like their aquatic brethren of the Oroonoko, nestle among the trees during the inundation, but have large canoes ready at its commencement, and every family commits itself in one of these arks to the waters of the flood. They live about three months in this manner, finding store of food by going to the high grounds as the inundation rises, and slaughtering the animals who have retreated there; when the waters have returned to their channel, they go back to their wonted abodes, set up their houses again, and dance through the season of fine weather as those who have no need to care for the morrow. So many fish are left behind by the flood, that, while the earth is drying, the atmosphere is pestilential both to natives and strangers. Opposite Assumption, where the Paraguay is only 1420 feet broad, the Chevalier de Azara calculated that 42,469,488½ cubical French feet passed every hour at an average, or 707,991 French feet per minute, and 11,800 French feet per second, or rather more than one-seventh of the quantity discharged by the Ganges during the dry season. He calculated the quantity of water which flowed into the river in the lower part of its course, before it is joined by the Parana, to be double that contained in the Ebro, the largest river in Spain.

To the south of the dividing ridge, between the sources of the Paraguay and the Tocantins, the great river *Parana* is formed by the accumulated waters of several extensive valleys. From the N.E. it receives the waters of an extensive valley, in S. lat. 15°; bounded on the N.W. by a dividing ridge, which separates it from one of the branches of the Araguaya; and on the E. by another, dividing it from one of the tributaries of the Rio Francisco. Its eastern branch, called the *Rio Grande*, rises in the province of Minas Geraes, at the western foot of the Brazilian ranges, in S. lat. 22°, and in the vicinity of St John del Rey; and running to the N.W. joins the north-eastern branch, in S. lat. 20° 31′, and W. long. of Greenwich 49°, after a course of 500 miles. From thence, its course is generally S.W. to its junction with the Paraguay, and more than 900 miles in direct distance, receiving in its progress a vast number of powerful streams from the east, as the *Teite*, or *Anhenbi*, the *Paranapanema*, the *Ybay*, and the *Iguaza*, or the great water, called also *Rio Grande de Curituba*. The Parana is both the longer and the larger stream, being two miles broad at the junction, while the Paraguay is only a mile broad. It is much more rapid in its course than the Paraguay, as it runs from steeper descents; but owing to the depth and breadth of its channel, it seldom overflows its banks. It has many islands in its channel, which are all covered in the periodical inundations. Although carrying a volume of water much superior to the Paraguay, it is not navigable throughout its whole extent, being interrupted by cataracts and rapids. The grand cataract of the Parana is in S. lat. 24°, not far from the ruined town of Guayra; and below it is a series of rapids for 12 successive leagues, amidst rocks of tremendous and singular forms. A little above the cataract, according to Father Techo, the Parana is two leagues broad, while at the cataract itself it is not a stone's throw in breadth.

The Oroonoko.] As the third great river of South America, we must next enumerate the Oroonoko, which absorbs all the streams that water the Caraccas, and the eastern part of New Granada, with the exception of the coast rivers. As no European has ever yet visited its source it is impossible to fix it with precision. According to La Cruz's map of South America—the best that has yet been published—the Oroonoko rises in a small lake, called *Ipava*, in N. lat. 5° 5′, W. long. 64° 30′; and running first a southerly course, winds round the base of the circular range of the Mei mountains; and then running S.E. is said by La Cruz, to receive a branch of the *Parima*, or *White river*, through a gorge of the mountains, just before its entrance into the lake of the same name. Others, represent it as separated in its whole course from both the river and lake of Parima; which latter opinion seems more probable, from the configuration of the mountains that separate the Parima from the Oroonoko. It then turns to the W. after receiving a vast number of large and tributary streams from the mountains of Mei and Tuguruaca. Not far below Esmeraldas—the uppermost Spanish mission on the stream—it sends off a very large and powerful branch, called the *Cassiquiari*, to the Rio Negro, a tributary of the Maranon, thus connecting this last with the Oroonoko. After receiving the Guaviari from the E. in 4° N. lat. and 67° 30′ W. long. the Oroonoko turns to the N. and then to the N.E., receiving in its further progress the large streams of the *Meta* and the *Apure*. In its farther progress N.E. it receives the *Caura*, at Cividad Real; and 200 British miles below Cividad Real, it receives the Caroni from the S., after a winding course of four hundred miles. Below Veta Guiana, or Old Guiana, the river forms an extensive delta, watered by innumerable channels, and extending 180 British miles in length by 120 in breadth. The mouths of this vast stream are above 50 in number, seven of which are navigable for large vessels; but the chief mouth—which is the most southern, and in the direct course of the river—is called *Bocca Grande*, or the *Great*

Mouth, and the *Serpent's Mouth*, being 18 miles in breadth. The mouths of the stream are of difficult navigation, and require expert pilotage. Next to the majestic Maranon, the Oroonoko is perhaps the largest stream in the world, with respect to depth and breadth. Humboldt, who sailed down the stream from Esmeraldas to the sea, found the breadth, at 600 miles up the river, to be from three to three and a half miles, and the depth 717 feet, without islands. At St Thome, the breadth is 3,500 toises, or 4 miles and 1265 feet, but there is a small island in the midst of the stream. Its depth at the same place, is 65 fathoms, or 390 feet, in the month of March, when the river is at the lowest. The rise of the annual inundation is 78 feet, which of course gives a depth of 468 feet in September, in a stream then exceeding four and a quarter miles in breadth, without islands. At Angostura, where the river is narrowest, but about a mile and a half across, the rise is 120 feet. The tide, which is very strong at the mouths of the river, experiences so many subdivisions from the number of channels it enters, that it is scarce perceptible at St Thome, 360 miles up by the windings of the stream, and then only in the summer, and when the wind is from the sea. The inundations of the Oroonoko commence in April, and finish with the month of August. The Oroonoko remains all the month of September with the same quantity of additional water, which it has acquired in the five preceding months; it is then that the river appears in all its grandeur. The whole flat country is one continuous sheet of water, from 20 to 30 leagues broad, for 600 miles distance from E. to W.; and the rise is perceptible at 1050 miles from its mouth, increasing as it approaches the sea. The inundation is not every year equal, but the difference never exceeds six feet. The approach of the rains which swell the Oroonoko and all its tributary floods, are announced by the cries and frightful shrieks of the larger apes; while the cayman and the boa, long concealed in a torpid state under the hardened mud, now burst with sudden and tremendous noise from their caverns. During the inundation of the delta, when the numerous islands inhabited by the Guarinos are completely submerged, these Indians nestle among the tops of the fan-leaved palms, in extended hammocks, constructed with netting made from the fibres of the leaves, and lined partly with mud. On these pensile or hanging and humid floors, the women light their fires, and cook their vegetable diet. The tree to which each family is attached, furnishes its sole subsistence. The pith of the fan-leaved palm resembling sago, is formed into thin cakes; and its scaly fruits, in the different stages of their progress, afford some variety of excellent food. In October, the inundation commences its decline, and the plains are insensibly abandoned by the waters, which return to their ancient bed. Multitudes of rocks and islands display themselves in the bosom of the river; and by the end of February, the Oroonoko is at its lowest state, which continues to the beginning of April. The direct course of the Oroonoko does not exceed 1200 British miles; but if its extraordinary windings be included, the length of its course will be doubled, and the quantity of surface drained by its confluent streams may be estimated at 400,000 square miles.

There are several cataracts on the Oroonoko, amongst which M. de Humboldt has distinguished those of *Maypure* and *Ature*. Neither of them is of any great elevation, and both owe their existence to an archipelago of little islands and rocks. These rapids, or *raudals*, as the Spaniards call them, present an extremely picturesque appearance.

"When the traveller descends from the village of Maypures to the brink of the river, after clearing the rock of Manimi he enjoys a truly astonishing prospect. At once a sheet of foam stretches out before him to fully a mile in extent. Masses of rock, of an iron black colour, rear their rugged fronts, like towers, out of this misty cloud. Every island, every rock is ornamented with luxuriant trees, closely grouped together. A thick smoke constantly hangs suspended over the water; and through this foggy vapour, which rises from the foam, shoot up the tops of lofty palm trees. As soon as the burning rays of the setting sun mingle with this humid cloud, the optical phenomena which are produced, actually give an air of enchantment to the scene. The coloured arches successively appear and disappear, and their image incessantly hovers before the eye at the mercy of the wind. During the long season of the rains, the murmuring waters have accumulated little islands of vegetable earth round the naked rocks. Adorned with the *Drosera*, and *Mimosa*, with its foliage of silver white, and a multitude of other plants, these form beds of flowers in the midst of frowning rocks."

"The communication," says Malte Brun, "which exists between the Oroonoko and the Amazon constitute one of the most astonishing phenomena of physical geography. The Portuguese made this fact known to the world above fifty years ago; but the systematic geographies leagued together to prove that such conjunctions of rivers were impossible. In the present day we no longer stand in need of either analogies or critical reasoning. M. de Humboldt has navigated both these rivers, and has examined this singular arrangement of the land. It is now certain that the Oroonoko and the Rio Negro flow along a plateau, which, at this part, has no actual declivity; a valley then occurs; their waters flow into it, and they are united, and thus form the celebrated Cassiquiare, by means of which MM. Humboldt and Bonpland passed from the Rio Negro into the Oroonoko. It is believed that there are still other communications between the Rio Negro and the different tributary streams of the Amazon. The lake Parima, if it have only a temporary existence, may very possibly empty itself both by the Oroonoko and by the White River or Parima, which flows into the Amazon."

Climate and Temperature.] "The three zones of temperature which originate in America," says Malte Brun, "form the enormous difference of level between the various regions, cannot by any means be compared with the zones which result from a difference of latitude. The agreeable, the salutary vicissitudes of the seasons are wanting in those regions that are here distinguished by the denominations of *frigid*, *temperate*, *hot* or *torrid*. In the frigid zone it is not the intensity but the continuance of the cold,—the absence of all vivid heat,—the constant humidity of a foggy atmosphere,—that arrest the growth of the great vegetable productions, and, in man, perpetuate those diseases that arise from checked perspiration. The hot zone of these places does not experience excessive heat; but it is a continuance of the heat, together with exhalations from a marshy soil, and the miasmata of an immense mass of vegetable putrefaction, added to the effects of an extreme humidity, that produces fevers of a more or less destructive nature, and spreads through the whole animal and vegetable world the agitation of an exuberant but deranged vital principle. The temperate zone, by possessing only a moderate and constant warmth, like that of a hot-house, excludes from its limits both the animals and vegetables that delight in the extremes of heat and cold, and produces its own peculiar plants, which can neither grow above its limits, nor descend below them. Its temperature, which does not brace the constitution of its constant inhabitants, acts like spring on the diseases of the hot regions, and like summer on those of the frozen regions. Accordingly, a mere journey from the summit of the Andes to the level of the sea, or *vice versa*, proves an important medical agent, *which is sufficient to produce the most astonishing changes in the human body*. But, living constantly in either one or the other of these zones must enervate both the mind and the body by its monotonous tranquillity. The summer, the spring, and the winter are here seated on three distinct thrones, which they never quit, and are constantly surrounded by the attributes of their power.

"Vegetation presents a greater number of gradations, of which it becomes necessary to point out the principal. From the shores of the sea to the height of 1083 yards, we meet with magnificent palms, the *Musa Heliconia*, the *Theophrasta*, the most odoriferous lilies, the balsam of Tolu, and the cinchona of Carony. The large flowered jessamine, and the *Datura arborea*, exhale at night their delicious perfume round the city of Lima, and, placed in the hair of the ladies, acquire an additional charm by heightening the graces of female loveliness. On the arid shores of the ocean, under the shade of the cocoa nut tree, the Mangrove springs, with the cactus, and various saline plants, and amongst others, the *Sesuvium portulacastrum*. A single variety of the palm, the *Ceroxylon andicola*. has separated itself from the rest of its family, to inhabit the heights of the Cordillera, at from 5,400 to 8,700 feet of elevation.

"Above the region of the palm commences that of the arborescent fern, and of the *Chinchona*, or cinchona. The former no longer grows at 4,800 feet, while the latter stops at 8,700. The febrifuge substance, which renders the bark of the cinchona so precious, is met with in several trees of a different species, some of which grow at a very low elevation, even on the sea shore; but as the true cinchona does not grow lower down than at a height of 2,118 feet, it has not been able to pass the isthmus of Panama. In the temperate region of the cinchona grow some of the lily tribe; for example, the *Cypura* and the *Sisyrinchium;* the *Melastoma*, with large violet-coloured flowers; the *Passion-flower tree*, as lofty as our northern oak; the *Thibaudia*, the *Fuchisia*, and *Alstœmeria*, of singular beauty. It is there that majestically arise the *Macrocnemum*, the *Lysianthus*, and the various *Cucullarias*. The ground is covered, in moist places, with mosses that are always green, and sometimes form an under verdure of as great beauty as those of Scandinavia or England. The ravines conceal the *Gunera*, *Dorstenia*, *Oxalis*, and a multitude of unknown *Arums*. At about 1,032 feet of elevation we meet with the *Porlieria*, which marks the hygrometrical state of the air; the *Citrosma*, with odoriferous leaves, and fruit; and numerous species of *Symplocos*. Beyond the height of 2,392 yards the coldness of the air renders the *Mimosas* less sensitive, and their leaves no longer close on being touched. From the height of 2,668, and especially of 3,078 yards, the *Acœna*, *Dichondra*, the *Hydrocotyles*, *Nerteria*, and *Alchemilla*, form a very thick and verdant turf. The *Mutisia* climbs up the loftiest trees. The oaks do not commence in the equatorial regions at a lower elevation than 1,842 yards. These trees alone sometimes present, under the equator, the appearance of spring; for they lose all their leaves, and others sprout out, the young verdure of which is mingled with that of the *Epidendrum*, which grows on their branches. In the region of the equator, the great trees, those of which the trunk measures more than 10 or 15 fathoms, do not rise beyond the level of 2,925 yards. From the level of the valley of Quito the trees are smaller, and their height is not to be compared with that which the same species attain in the more temperate climates. At 3,600 yards *almost the whole vegetation of trees entirely disappears; but at this elevation the shrubs become so much the more common.* This is the region of the *Berberis Duranta,* and *Barnadesia.* These plants characterise the vegetation of the plateaus of Pasto and Quito, as that of Santa Fé is distinguished by the *Polymhia* and the *Datura arborea.* The soil is covered with a multitude of calceolarias, the golden coloured corollo of which enamel the verdure of the turf in a beautiful manner. Higher up, on the summit of the Cordillera, from an elevation of 5,760 to 6,800 feet, we find the region of the *Wintera* and the *Escallonia.* The cold but always humid climate of these heights, called by the natives *Paramos,* produces shrubs, of which the trunks, short and stunted, divide into an infinite number of branches, covered with coriaceous leaves of a shining verdure. Some trees of the orange cinchona, the *Embothrium,* and *Melastoma,* with violet and almost purple-coloured flowers, grow at this elevation. The *Alstonia,* the leaf of which, when dry, yields a salutary tea, the *Grenadian wintera,* and the *Escallonia tubar,* which extends its branches in the shape of a parasol, form wide spread groups.

“A broad zone, from 6,000 to 12,600 feet, presents us with the region of alpine plants, that, namely, of the *Stæhlina,* the *Gentians,* and the *Espeletia frailexon,* the velvet leaves of which often serve as a shelter to unfortunate Indians who have been benighted in these regions. The turf is adorned with the *Dwarf lobelia,* the *Sida* of Pichincha, the ranunculus of Gusman, the gentian of Quito, besides many other new species. At the height of 12,600 feet the Alpine plants are succeeded by the grasses, the region of which extends 1,800 or 2,400 feet higher. The *Jarava, Stipa,* and many other new species of the *Panicum, Agrostis, Avena,* and *Dactylis,* cover the ground. At a distance it has the appearance of a gilded carpet, and, by the natives of the country, is called *Pajoual.* Snow occasionally falls in this region of the grasses. At the height of 18,225 feet, the phaenogamous plants entirely disappear. From this boundary to that of perpetual snow, only the lichens cover the rocks. Some of these plants appear to grow even under eternal ice.

“The uncultivated plants are met with in zones that are neither so narrow nor so rigorously defined. In the region of the palms, the natives cultivate the banana, jatropha, maize, and cocoa. Europeans have introduced the sugar-cane and indigo plant. After passing the level of 3,100 feet, all these plants become rare, and only prosper in particular situations. It is thus that the sugar-cane grows even at the height of 7,500 feet. Coffee and cotton extend across both of these regions. The cultivation of wheat commences at 3,000 feet; but its growth is not completely established lower than 1,500 feet above this line. Barley is the most vigorous, from a height of 4,800 to 6,000 feet. One year with another it produces 25 or 30 grains for 1. Above 5,400 feet the fruit of the banana does not easily ripen; but the plant is still met with, although in a feeble condition, 2,400 feet higher. The region comprehended between 4,920 and 5,160 feet is also the one which principally abounds with the cocoa, or *Erythroxylum Peruvianum,* a few leaves of which, mixed with quicklime, support the Peruvian Indian in his longest journeys through the Cordillera.

It is at the elevation of 6,000 and 9,000 feet that the *Chenopodium quinoa*, and the various grains of Europe are principally cultivated, a circumstance which is greatly favoured by the extensive plateaus that exist in the Cordillera of the Andes, the soil of which being smooth, and requiring little labour, resembles the bottom of ancient lakes. At the height of 9,600 or 10,200 feet, frost and hail often destroy the crops of wheat. Indian corn is scarcely any longer cultivated above the elevation of 7,200 feet; 1,000 feet higher and the potato is produced; but it ceases at 12,600 feet. At about 10,200 feet barley no longer grows, and rye only is sown, although even this grain suffers from a want of heat. Above 11,040 feet all culture and gardening cease; and man dwells in the midst of numerous flocks of lamas, sheep, and oxen, which, wandering from each other, are sometimes lost in the region of perpetual snow."

Animal Kingdom.] The following very characteristic outline of the procession of animated beings which fill up the space, and enliven the depths of a tropical forest, extracted from Caedeleugh's travels, will give the reader a lively idea of the animal-species in South America: "The naturalist, who is here for the first time, does not know whether he shall most admire the forms, hues, or voices of the animals. Except at noon, when all living creatures in the torrid zone seek shade, and repose and when a solemn silence is diffused over the scene, illumined by the dazzling beams of the sun, every hour of the day calls into action another race of animals. *The morning is ushered in by the howling of the monkeys, the high and deep notes of the tree-frogs and toads, the monotonous chirp of* the grasshoppers and locusts. When the rising sun has dispelled the mists which preceded it, all creatures rejoice in the return of day. The wasps leave their long nests, which hang down from the branches: the ants issue from their dwellings curiously built of clay, with which they cover the trees, and commence their journeys on the paths they have made for themselves, as is done also by the termites, which cast up the earth high and far around. The gayest butterflies, rivalling in splendour the colours of the rainbow, especially numerous *Hesperiæ*, flutter from flower to flower, or seek their food on the roads, or collected in separate companies, on the sunny sandbanks of the cool streams. The blue shining *Menelaus*, *Nestor*, *Adonis*, *Laertes*, the bluish, white *Idea*, and the large *Eurylochus* with its ocellated wings, hover like birds between the green bushes in the moist valleys. The *Feronia*, with rustling wings, flies rapidly from tree to tree, while the owl, the largest of the moth kind, sits immoveably on the trunk, with outspread wings, awaiting the approach of evening. Myriads of the most brilliant beetles buzz in the air, and sparkle like jewels on the fresh green of the leaves, or on the odorous flowers.—Meantime agile lizards, remarkable for their form, size, and brilliant colours, dark-coloured poisonous or harmless serpents, which exceed in splendour the enamel of the flowers, glide out from between the leaves, the hollows of trees, and holes in the ground, and, creeping up the stems, bask in the sun, and lie in wait for insects or birds. From this moment all is life and activity. Squirrels, troops of gregarious monkeys, issue inquisitively from the interior of the woods to the plantations, and leap, whistling and chattering from tree to tree. *Gallinaceous jacus*, *hoccos*, and pigeons, leave the branches, and wander about on the moist ground in the woods. Other birds, of the most singular forms, and of the most superb plumage, flutter singly, or in companies, through the fragrant bushes. The green, blue, or red parrots, assemble on the tops of the trees, or flying towards the plantations and island, fill the air with their screams. The toucan, sitting on the extreme branches, rattles with his large hollow bill, and in loud plaintive notes calls for rain. The busy orioles creep out of their long, pendent, bag-shaped nests, to visit the orange trees, and their sentinels announce with a loud screaming cry, the approach of man. The flycatchers, sitting aloof, watching for insects, dart from the trees and shrubs, and with rapid flight catch the hovering menelaus, or the shining flies, as they buzz by. Meantime, the amorous thrush, concealed in a thicket, pours forth her joy in a strain of beautiful melody; the chattering manikins, calling from the close bushes, sometimes here, sometimes there, in the full tones of the nightingale, amuse themselves in misleading the hunters; and the wood-pecker makes the distant forests resound while he picks the bark from the trees. Above all these strange voices, the metallic tones of the *uraponga* sound from the highest trees, resembling the strokes of the hammer on the anvil, which, appearing nearer or more remote according to the position of the songster, fill the wanderer with astonishment. While thus every living creature, by its actions and voice, greets the splendour of the day, the delicate humming birds, rivalling in beauty and lustre, diamonds, emeralds, and sapphires, hover round the brightest flowers. When the sun goes down, most of the animals retire to rest; only the slender deer, the shy peccari, the timid *agouti, and the tapir, still graze around; the nasua and the opossum, the cunning animals of the feline race, steal through the obscurity* of the wood *watching for prey, till at last the howling monkeys, the sloth, with* a cry as of one in distress, the croaking of frogs, and the chirping grasshoppers, with their monotonous note, conclude the day; the cries of the *macuc*, the *capuiera*, the goat-sucker, and the bass tones of the bull-frog, announce the approach of night. Myriads of luminous beetles now begin to fly about like *ignes fatui*, and the blood-sucking bats hover like phantoms in the profound darkness of the night."

"In the interior part of the New Continent," says Humboldt, "we almost accustomed ourselves to regard men as not being essential to the order of nature. The earth is loaded with plants, and nothing impedes their developement. An immense layer of free mould manifests the uninterrupted action of organic powers. The crocodiles and the boas are masters of the river; the jaguar, the *peccari*, the *dante*, and the monkeys traverse the forest without fear, and without danger; there they dwell as in an ancient inheritance. This aspect of animated nature, in which man is nothing, has something in it strange and sad. To this we reconcile ourselves with difficulty on the ocean, and amid the sands of Africa; though in these scenes, where nothing recalls to mind our fields, our woods, and our streams, we are less astonished at the vast solitude through which we pass. Here, in a fertile country adorned with eternal verdure, we seek in vain the traces of the power of man; we seem to be transported into a world different from that which gave us birth. These impressions are so much the more powerful, in proportion as they are of longer duration. A soldier, who had spent his whole life in the missions of the Upper Oroonoko, slept with us on the bank of the river. He was an intelligent man, who, during a calm and serene night, pressed me with questions on the magnitude of the stars, on the inhabitants of the moon, on a thousand subjects of which I was as ignorant as himself. Being unable by my answers, to satisfy his curiosity, he said to me in a firm tone, 'With respect to men, I believe there are no more above, than you would have found, if you had gone by land from Javita to Cassiquiaire. I think I see in the stars, as here, a plain covered with grass, and a forest traversed by a river.' In citing these words, I paint the impression produced by the monotonous aspect of those solitary regions."

COLOMBIA.

Boundaries and Extent.] The republic of Colombia, composed of those districts which, while under Spanish domination, were known by the names of *New Granada*, and *Caraccas*, is situated between 12° 25′ N. lat. and 6° 15′ S. lat. It is bounded by the Caribbean sea, from Punta Careta to the Morocco and Pamarous rivers, on the N.; on the E. and S.E. by British, Dutch, and French Guiana; on the S. by Portuguese Guiana;[1] and by the Pacific ocean, and the Great bay of Panama, on the W.; by the viceroyalty of Peru, from which it is divided by a line drawn S. E. from the river Tumbez, in S. lat. 3° 30′, across the Andes, till it strikes the Tunguragua, in 6° S. lat. a little to the south of Jaen de Bracamoros; thence, N.E. along this stream, as far as the *Pongo or narrow* pass where the Tunguragua issues from the western face of the Andes; thence to its confluence with the Apurimac or Maranon, and down this mighty stream to the western mouth of the Yapura. The Pacific ocean forms its boundary on the W. along an extent of 11 degrees of latitude. The extent of its coasts on the Caribbean sea exceeds 1000 miles. Its total superficies probably amounts to 1,000,000 square miles.

Civil Divisions.] The territory of this republic has been successively divided into 7, 10, and 12 departments. These departments are unequally subdivided into provinces; the provinces into cantons; and the cantons into parishes. The following table exhibits the existing departmental divisions, with their capitals, and the population as officially (we do not say accurately) returned in 1820:

Departments.	*Capitals.*	*Population of the departments.*
* Apure,	Varinas,	80,000
Ascay,	Cuenca,	195,000
Boyaca,	Tunja,	414,000
Cacca,	Popayan,	193,000
Cundinamarca,	Santa Fe de Bogota,	371,000
Equateur,	Quito,	278,000
Guyaquil,	Guyaquil,	90,000
Magdalene,	Carthagena,	339,000
Orenoque,	Cumana,	174,000
Panama,	Panama,	80,000
* Sulia,	Maracaybo,	162,000
* Venezuela,	Caraccas,	350,000
		2,756,000

The departments to which we have prefixed an asterisk formerly composed the captainship of Caraccas.

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[1] As the geography of the interior of this vast tract is very imperfectly known, it is impossible to fix with accuracy where the line of demarcation commences between Portuguese and Spanish Guiana, and its precise direction. The fact is, that though the equator was usually assigned in almost all maps as the boundary between Spanish and Portuguese Guiana, yet the latter have pushed their settlements up the Rio Negro, to the vicinity of San Carlos, in 1° 55′ N. lat. If, therefore, a line be drawn from a point on the Yupura, in S. lat. 1° 30′, straight north to another on the Rio Negro, in N. lat. 2°, from thence S.E. to Fort San Carlos, in N. lat. 1° 55′, and from thence in a line almost due W., till it reach the western frontier of French Guiana, it will represent the real southern boundary between the old frontiers of the government of Caraccas and Portuguese Guiana.

CHAP. I.—HISTORY.

THE earlier history of this part of Spanish America presents few events of sufficient importance to attract the attention of general readers. An attempt was made by the Scots to establish a settlement on the isthmus of Dariên, in 1698; which, had it not been thwarted and ruined by the mean and selfish policy of a few monied monopolists, might ultimately have proved of vast advantage, political and commercial, to Great Britain. Paterson, a Scots clergyman, was the author of this ill-fated project, which was patronised by Fletcher of Salton, and adopted through his influence by the Scottish ministry. In a short time near a million sterling was subscribed in England, Scotland, and Holland; of which sum £400,000 was raised in Scotland alone, being one-half of the cash then in the kingdom. Two expeditions, amounting together to 2,500 men, successively sailed from Leith for the projected settlement; but, before the second expedition arrived, the first adventurers had either died, or left the new settlement in despair in consequence of orders issued by the English and Dutch governments to their respective colonies, prohibiting them from all correspondence with the Scotch colony; cut off from all supplies,—interdicted all communication with the West Indies or British America;—and besieged by the Spaniards both by sea and land,—this ill-fated colony was obliged to capitulate to the enemy.

From the time of the conquest and settlement of Caraccas, down to the commencement of the present century, the annals of this country present nothing of importance but the occasional inroads of the fierce and inhuman buccaneers, so celebrated in the history of crime. Like the rest of the Spanish colonies, dissatisfaction had long been rooted in the minds of the Caraquinian colonists. This feeling was strengthened and confirmed by the successful example of the British colonies in North America; and in 1797 the flame had nearly burst forth with irresistible violence. Don Josef Espana, a rich merchant of Caraccas, and Don Manuel Wal, an officer of engineers residing at Guayra, conceived the bold design of establishing the independence of Venezuela, and uniting to it the provinces of Cumana, Maracaibo, Varinas, and Guiana, under the name of the United States of South America; but the confederates were arrested before the general insurrection could take place. Espana, brought to the scaffold, died with Roman firmness; and Wal finished his existence in the isle of Trinidad. A few years after this, Miranda, a native of Caraccas, and who, like Kosciusko and La Fayette, had served in the independent army during the American war, and afterwards in the French army, landed in Venezuela with a handful of adventurers whom he had picked up in the United States. His means were however so inadequate, and his measures so injudicious, that not a man joined him; and after taking possession of Coro, he found it necessary in a few days to re-embark, leaving part of his followers, who had fallen into the hands of the Spaniards, to suffer as pirates, without making a single effort to liberate them, or to mitigate their fate.

The colony remained in peace, though still dissatisfied, until the moment when Spain was invaded by Bonaparte, when insurrection began again to show itself in the Caraccas. No sooner had the news arrived there, of the overthrow of the Spanish armies, the fall of Seville, and the retreat of the junta to the Isle of Leon, than the disaffected party, having previously gained over the military, seized the governor, Emparan, as he was entering the cathedral to celebrate mass, on holy Thursday, the 19th of April, 1811,—forced him to the consistory, where the council were assembled,—and there compelled him to resign his government. The governor and the other members of the administration were then sent to the coast, and shipped off. A supreme junta was immediately formed, which began its career by decrees and proclamations,—took off the alcavala from all articles of food, or of the first necessity,—exempted the Indians from the capitation tax,—threw open the prisons,—and bribed the military by promising them double pay. At Barcelona, all opposition to the revolution was instantly crushed. This example was followed through the greater part of the captaincy; Coro, Maracaibo, Valencia, and Guiana, being the only parts which dissented. Commissioners were immediately sent after these proceedings to England and the United States. The regency of Cadiz, as soon as they were informed of the conduct of the Junta, declared the Caraccas in a state of rebellion, ordered its ports to be blockaded, and sent over a deputy to attempt to pacify the insurgents; but he was not suffered to land, and his proposals of reconciliation with the mother-country were contemptuously rejected. The junta, who had entitled themselves the supreme conservative junta of Venezuela, encouraged by a letter from Miranda advising them to have no connexion with Spain, and to take the whole government into their own hands, immediately invited that adventurer to join their cause, and erased all the records of former proceedings against him. A congress was next summoned from all the provinces of the captaincy, to which Miranda was returned a deputy. This congress assembled on the 1st of July, 1811, and their first act was a solemn renunciation of allegiance to Ferdinand VII. As soon as this manifesto was published, many individuals who held public offices resigned them,—others retired from the country,—while the Spaniards and Canarians formed conspiracies against the new government. A new constitution was next formed by the congress; among the chief articles of which were, the abolition of torture,—provision for a trial by jury,—the prohibition of the slave-trade,—a non-toleration of every religion but the Roman Catholic, which was declared to be the sole and exclusive code of religious faith to the whole community,—and the investiture of the legislative and executive functions in the hands of three magistrates, who were to hold their power for four years. The proceedings of the congress were, however, soon disturbed by the interference of what was denominated a patriotic society, founded in the city of Caraccas, six months after the arrival of Miranda, who was declared its president. This society—like its prototype the Jacobin club in Paris—met regularly to discuss political subjects. Several Frenchmen were members of it, and deputations from it regularly appeared before the bar of the congress, and pronounced philippics against the British as tyrants of the sea. In the meantime, notwithstanding the death and decapitation of most of the loyalists who had prematurely ventured to conspire against the new order of things, several parts of the captaincy still adhered to the mother-country. Against these, an armed force was sent, under the marquis del Toro; the royalists of Coro beat him back with considerable loss; and on the side of Guiana, the revolutionists were equally unfortunate, their flotilla on the Oroonoko being defeated, while Miranda had no better success against the city of Valencia; but in three weeks after, Miranda, reenforced by the Caraquinians to upwards of 5,000 men, again attacked and captured Valencia, after having hemmed in the royalists, and starved them to a surrender, on the 18th August, 1811. Coro and Maracaibo, however, remained still unreduced, and Miranda began to be checked in his career by causes which might have been easily foreseen. In a country so thinly peopled, and without manufactures, men could not be provided without taking them from agriculture ; and while the new government raised soldiers by force, the crops were left to perish on the ground for want of hands to gather them. This was soon felt in the treasury ; and the people began to grow discontented. Miranda, who was hailed at first as a deliverer, was, notwithstanding his successes, denounced to the executive as a tyrant. An awful catastrophe soon took place, which terminated the career of Miranda, and for a season put the captaincy of Venezuela in complete possession of the royalists. This was the earthquake of 1812. Immediately after its occurrence, the cities round about hastened to send Monteverte, the royalist commander, their submission, and he advanced towards the capital, Caraccas, while the congress, as a last remedy, made Miranda dictator, who proclaimed martial law. But all was in vain. The Venezuelans were persuaded that the wrath of the Almighty had kindled against them ; and Miranda's army deserted so fast, that he found himself compelled to surrender without fighting. Some of his chief adherents got on ship-board, and escaped to the United States ; and Monteverte (contrary to the terms of the capitulation) made use of this circumstance, as a pretext for securing him and a few of the other leaders, and sending them prisoners to Spain. Such was the termination of this adventurer's career, who died after a rigorous confinement of four years, in the prison of La Cabarca, near Cadiz.

Venezuela now acknowledged the regency and the Cortes; and the Spaniards had an opportunity of retrieving past errors by a mild and conciliatory conduct. But this invaluable season was lost. The royalists, in all the insolence of triumph, conducted themselves with a degree of cruelty and imprudence, which could not fail of again ruining their cause. " Thus," says Cochrane, " in the first Cortes which assembled at Cadiz, the Spanish members, whilst they were eagerly anxious to obtain the freedom of their own country, seemed equally solicitous, in the same breath, to enslave the Spanish Americans. Some of them even betrayed a malignity which, impolitic as it was, to say the least of it, considering that they were speaking in the presence and hearing of the American members, who formed part of the Cortes, was rendered supremely ridiculous by its impotence. It was said by one, ' If the Americans complain of having been tyrannized over for 300 years, they shall now experience a similar treatment for 3,000.' By another it was said, after the battle of Albufera, ' I am rejoiced at the advantage we have gained, because we can now send troops to reduce the insurgents :' and by a third, ' I do not know to what class of beasts the Americans belong.' " Don Simon Bolivar, who had been one of the deputies from the Caraccas to England, in 1810, having raised an army of less than 1,000 men, after several successful battles with the royalists, entered (as a deliverer) the city of Caraccas, on the 4th of August, 1813. He continued successfully to attack and defeat the remaining forces of the royalists ; and having offered his resignation as a commander, into the hands of a representative assembly, was by them formally appointed the sole dictator. In order to recover their superiority, the Spaniards had recourse to the desperate measure of a general liberation of the slaves ; and by these means raised an army, or rather an armed rabble, of above 70,000 men, and defeated Bolivar in a general action, at 150 miles distance from Caraccas; but the latter was soon in the field again, and renewed the struggle with greater success.

The same spirit of dissatisfaction which existed in Mexico, and in general throughout almost all Spanish America,[2] had long reigned in New Granada. No sooner had the Caraccas declared for independence, than the viceroy of Santa Fé prohibited, under the severest penalties, all communication with the revolted provinces. But his precautions and proclamations were alike vain. The imprudent and violent conduct of the royalist party in the viceroyalty, roused the latent elements of disaffection into flame. The corregidor of Socorro, by causing the troops under his command to fire upon a mutinous but unarmed populace, exasperated them into fury, and an insurrection instantly took place. Attacked by an immense multitude from the neighbouring country, he was besieged in a convent, whither he had retired for protection; and starved into a surrender, on the 9th of July 1810. Socorro immediately appointed its junta, and sent to the audience of Santa Fé a vindication of its proceedings. The viceroy finding it in vain to oppose the torrent of dissatisfaction, which had strongly shown itself in a tumult that had occurred in the capital, but desirous, at the same time, to retain at least some shadow of authority, yielded to their wishes, and indulged them with a junto, of which in return he was declared president. He even persuaded them to recognize the regency as the legitimate representative of Ferdinand VII. in Europe; but in the meantime another event occurred, which increased all the former jealousies and apprehensions entertained by the creoles, respecting the officers and servants of the mother-country. This was the conduct of the royalists respecting Quito. This city having joined the general defection, was besieged and captured by a body of troops belonging to the viceroy of Lima, who put to death one out of every five of the inhabitants, by whom the city had been defended. Upon the intelligence of this cruel massacre reaching Santa Fé, the viceroy was instantly deprived of his authority: and in the spring of 1811, a general congress was held at Santa Fé de Bogota, which abjured the provisional government of Spain, but acknowledged Ferdinand VII. as the lawful king and sovereign of *Cundinamarca*, the new appellation they had given to New Granada. The congress of Cundinamarca appointed Nurino general of their forces; who was for some time victorious, but was at length taken prisoner, in June 1814; and the cause which had prospered by his talents and conduct, was materially depressed. The congress, however, not dispirited, employed Bolivar, in December 1814, to compel the province of Cundinamarca, with Santa Fé, the capital, to submit to their form of government. In this object he succeeded, and the congress proceeded again to hold their sittings in that city. Murillo shortly after arrived with a body of 10,000 troops from Spain, and captured Carthagena, in December, 1815, after a siege of four months, during which a great part of the defenders had perished by famine. Pursuing his success, Murillo, in June, 1816, captured Santa Fé, after a spirited resistance from the independents; but the latter ultimately prevailed under the guidance of Bolivar; and on the 6th of December, 1821, a congress-general, consisting of deputies from all the states within the present boundaries of Colombia, was enabled to assemble at Rosario de Cucuta, which promulgated a federal constitution on the 30th of August, 1823. The latest efforts of the royalists to re-establish the authority of Spain in this country have been completely unsuccessful; but the country is by no means in a tranquil and assured state. Of the prospective improvement of this country it would be dangerous to prophesy. All good must come from abroad; yet the Colombians are jealous of foreigners, whatever their governors may feel or say. Their ecclesiastical policy, too, is a dead weight. Why give such studied eminence to the Roman Catholic religion? Why not be contented with placing it first? If this prostration to Rome proceed from sincerity, it proves the darkling state of intellect in the rulers of the new republic—if from policy, it demonstrates that they possess not materials fit for building an independent government or state. In this state of things, contending chiefs may be expected to excite civil commotions. The popularity of one, the legislative influence of another, and the unenlightened course of all, may lead them to every evil. But let us hope their fate may be to emerge to light, liberty, and every social improvement.

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[2] "To show the character of the bondage in which the Spanish Americans were held, it will be sufficient," says Cochrane, "to quote a few of the grievances of which they complained:—1st. The arbitrary power exercised by the viceroys and captains-general, who very frequently evaded the laws, and even the orders which they received from the king. 2d. That the *audiencias* were composed solely of Europeans, who interpreted the laws as they pleased. 3d. That under the authority of the *audiencias*, clandestine decrees in causes were often made; nocturnal arrests took place; persons were banished without previous trial, and numerous other acts of injustice were committed. 4th. That they (the native Spanish Americans) were treated with distrust by the government, notwithstanding the loyalty and courage which, upon several occasions, they had manifested in defence of the rights of the crown of Spain. 5th. That they were obliged to bear insults from the meanest of the Spaniards, who, merely upon account of their European birth, considered themselves superior to, and as it were the masters of, the Spanish Americans. As an instance of this kind of feeling, a report is quoted, which was made to the king by his fiscal, upon the petition of the city of Merida de Maracaybo, in Venezuela, to found an university: the opinion of the fiscal was, that 'the petition was to be refused, because it was unsuitable to promote learning in Spanish America, where the inhabitants appeared destined by nature to work in the mines.' After a pretended solemn deliberation of the *Consulada*, or board of trade, in Mexico, the members informed the cortes, that 'the Indians were a race of monkeys, filled with vice and ignorance; automatons unworthy of representing or being represented.' 6th. That notwithstanding the original compact made between the king and the first settlers in Spanish America, which stipulated 'that in all cases of government, justice, administration of finances, commissions, &c. the first discoverers, then the *Pacificadores*, and lastly, the settlers, and those born in the said provinces, were to be preferred in all appointments and public employments—' the creoles were gradually shut out from all participation in local commands and dignities; that they were also prohibited from visiting the mother-country, without the express permission of the king, which could not be obtained but with much difficulty. 7th. That the South Americans were prohibited from making wine or brandy, or extracting oils, and from planting vines or almond trees, except in Peru or Chili, or from cultivating more than a specified and limited number of tobacco-plants; whilst the wine, almonds, &c. produced in Peru and Chili, were not permitted to be sent to Mexico, New Grenada, or Terra Firma; and it was forbidden to cultivate tobacco or the sugar-cane in Chili. 8th. That in order to check the progress of population, and to keep distinct the different classes, there were many laws tending to throw obstacles in the way of marriages."

CHAP. II.—PHYSICAL FEATURES.

THE western portion of this extensive country presents every possible variety of aspect,—lofty mountains, profound valleys, and extensive plains.

Mountains.] It is intersected by numerous broad and elevated ridges, generally projected in various directions from the great chain of the Andes, which, from the snowy mountains of St Martha, on the coast, in N. lat. 11° 30′, to the S.W. extremity of the country, in 6° S. lat., extends at least 1,300 British miles. From this last point, N. to the sources of the Magdalena and Cauca—a space of more than 600 British miles—the Andes form a double chain, each of the sides presenting as it were the appearance of walls, and the interval being the elevated plain of Quito. These two ridges are distant from each other generally from 20 to 24 miles, sometimes receding and sometimes approximating, but always preserving nearly the same direction. The plain between them is from five to six leagues in breadth; and within its narrow bounds is concentrated the population of the province of Quito. Those who have lived for some time within this elevated spot, where the barometer remains at the level of 20 inches, forget that every surrounding object,—the villages full of industrious inhabitants—the pastures covered at the same time with herds of llamas and flocks of European sheep—the rich cultivated fields, promising the most luxuriant harvests,—hang as it were suspended in the lofty region of the atmosphere, at the extraordinary elevation of from 9,000 to 10,000 feet above the level of the sea. At the sources of the Magdalena and Cauca, the Andes diverge into three parallel ridges. Of these, the eastern ridge divides the valley of the Rio Magdalena from the immense plains watered by the Guaviari, Meta, and Apure—the three great western tributaries of the Oroonoko—and nowhere rises to the region of perpetual snow. The highest summits of this chain are those of *Summa Paz* and *Chingaza.* The central chain divides the valley of the Rio Magdalena from that of the Cauca, and is the highest of the three, often attaining the limits of perpetual snow, and greatly surpassing it in the colossal summits of *Gouanacas*, *Barragan,* and *Quindiu.*[3] The western chain separates the valley of Cauca from the province of Choco and the coasts of the Pacific. Its highest elevation is scarcely 5,000 feet; and it sinks so low in its progress northward, that its course can scarcely be traced into the department of Panama, where it forms mountainous land only 1,200 feet in height. The

[3] The central chain is extremely difficult to pass, on account of its extreme elevation. At the dreadful pass of *Gouanacas*, in N. lat. 2° 34′, for the space of two Spanish leagues, the road is covered with the bones of travellers who have perished upon it. To the S. of this pass, is the lofty volcano of *Cocunucu;* and to the N. the mountain of *Houda* equally clothed with snow. This central chain, illumined by the rays of the rising or setting sun, presents a most magnificent spectacle when seen from the city of Santa Fé, itself elevated 8,726 feet above the level of the sea, in a high valley at the foot of the eastern chain. The pass of *Quindiu*, in N. lat. 4° 36′, two degrees to the N. of the pass of Gouanacas, is the most difficult to pass in the Andes, according to Humboldt who crossed it in October, 1801, on his way to the Pacific. It lies through a thick uninhabited forest, which cannot be traversed, even in the finest weather, in less than 10 or 12 days. Travellers are obliged to furnish themselves with a month's provision, as it often happens, from the melting of the snow, and the sudden swell of the torrents, that it is impossible to descend in any direction. The summit of the pass called the *Garito del Paramo*, is 3,505 metres, or 11,499 feet above the level of the sea. From the foot of the mountain, to the summit of the pass, the ascent is 8,300 feet perpendicular height. The pathway is only from 12 to 16 inches wide, and in several places has the appearance of a deep gallery cut in and open to the sky. Along these crevices, which are full of mud, the traveller is frequently obliged to grope his way in the dark, the shrubbery overgrowing the narrow opening above. The oxen—the common beasts of burden—can with difficulty force their way through these gullies, some of which are 700 feet in length; and if by chance a traveller meets them in the passage, he must either turn back, or scramble up the steep sides of the crevices, and suspend himself by the roots of the superincumbent trees or shrubs. As few persons in easy circumstances travel on foot in these climates, through roads so difficult, and for 15 or 20 days together, they are usually carried in a chair tied on the back of a man,—for in the present state of the pass of Quindiu, it is impossible to pass on mules. They talk, says Humboldt, in this country, of going on a man's back, as we would speak of going on horseback; and no humiliating idea is annexed to the profession of a *carguero*, or man-carrier. They who follow this trade are not Indians or negroes, but mulattoes, and sometimes even whites. When the government formed the project of making the passage from Nares to Antioquia passable for mules, the cargueros remonstrated so loudly against mending the road, that it was thought proper to give up the plan.

central and western chains are said to unite at the junction of the Cauça and Magdalena, in N. lat. 8° 30′, when they are denominated the mountains of St Martha. The mountain of that name, nigh the coast, is 2,350 toises, or 15,056 feet in perpendicular height, and visible far at sea.

The road which crosses the elevated paramo of *Assuay* is nearly as high as Mount Blanc, the highest of European mountains. Here, at a height far surpassing the peak of Teneriffe, are found the magnificent remains of the superb road constructed by the incas of Peru. This causeway, lined with free stone—says Humboldt—may be compared to the finest Roman roads I have seen in Italy, France, or Spain, being perfectly straight, and keeping the same direction for 4 or 5 British miles.[4]

Several of the most elevated peaks of the Andes in this region have been scaled, and their heights accurately determined by Condamine, Bouguer, Don George Juan, Don Antonia de Ulloa, and, in latter times, by *Humboldt and Bonpland. According to their observations, Chimborazo* is 21,440 feet high. They ascended to the height of 19,300 feet, which is undoubtedly the highest point of the terrestrial surface yet trodden by man. From this point, the summit rose 2,140 feet higher; this they attempted to scale, but were prevented by a tremendous chasm 500 feet wide, and of vast depth. At the height to which they had already attained, they encountered unusual hardships from the severity of the climate. The air was intensely cold and piercing, and owing to its great severity, respiration was difficult; the blood oozed from the eyes, lips, and gums; one of the party fainted, and all of them felt extreme weakness. The barometer stood at 14 inches, 7 lines. Humboldt also ascended, in 1802, to the summits of *Pichincha*, *Antisana*, and *Cotopaxi*, but was unable to approach the brink of the crater of this last volcano. The heights of the principal summits are the following:

	Feet.		Feet.
Chimborazo	21,440	Pichincha	15,976
Cayambe	19,384	Corazoro	15,795
Antisana	19,305	Cerro de Ladrillon	15,386
Pico de Horquita	19,224	Volcan de Purace	15,380
Cotopaxi	18,889	Tablauma	15,310
Ilinissa	17,620	Tolima, summit of the Paramo of Gouanacas	15,250
Sangay	17,136	Volcano of Merida	15,056
Tunguragua	16,748	Puguiacu	14,864
Cocatoche	16,428	Montserrat, near Bogota	10,680
Sinchaluhua	16,428		
Carguairazo	16,090		

Paramos.

	Feet.		Feet.
Summit of the Paramo of Assuay	15,744	Paramo of Cayambe	12,467
Inferior limit of do.	14,764	Paramo of Pambamarca	13,500
Paramo of Guoanacas	14,736	Paramo of Antisana	13,451
		Paramo of Sara	12,000

Mean inferior limit of constant snow . . 15,834

The following are the elevations of habitations, villages, and cities in Quito and New Granada:

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[4] This famous road reached (according to Indian tradition) along the high belt of the Andes, from Cusco, to Pasto in Popayan, a direct distance of more than 1,300 British miles. The continuation of it was observed by Humboldt, at Caxamarca, 360 miles S. of the paramo of Assuay. Near this road, and at the height of 13,284 feet, are the remains of an ancient palace of the incas; and descending to the S. are the remains of a Peruvian fortress, called *Cannar*, with a house in the centre, which served as a lodging for the incas in their journeys from Cusco to Quito; the remains of edifices round it indicate that there was room enough at Cannar to lodge a small army. Along this causeway, at certain definite distances, from station to station, were houses built for the incas, remarkable for their solidity, symmetry, and simplicity.

	Feet.		Feet.
Hamlet of Antisana	13,500	Loja	6,855
Village of Chumbe	12,000	Popayan	5,815
Ruined palace of the Incas	13,284	Estrilla	5,645
Malbasa	9,971	Medellin	4,855
Village of Cayambe	9,724	La Meya	4,225
Quito	9,538	Guaduas	3,772
Riobamba Nuivo	9.482	La Plata	3,437
La Tacunga	9.473	Carthago	3,149
Tunga	9,522	Caripe	2,959
Caxamarca	9,381	Caraccas	2,906
Hambato	8,849	Neiva	1,702
Bogota	8,726	Antiquia	1,666
Cuenca	8,633	Tocayma	1,581
Santa Rosa	8,459	Valencia	1,5[illegible]7
Pastos	8,308	Tornependa, near the Tunguragua	1,279
Pamplona	8,016	Rentima	1,240
Alausi	7,970	Jaen de Bracamoros	1,026
Almaguir	7,413		

It may be observed, that though Humboldt has fixed the inferior limit of perpetual snow by a mean of observations on the flanks and summits of 6 of the summits given above, at 2,471 toises, yet, in another place, he fixes it at 2,460 toises, or 15,768 feet, from that of Pichinca. In his account of the volcano of Cotopaxi, he makes the inferior limit of snow only 14,472 feet, or near 1,300 feet lower than he has assigned the mean of that limit, and plainly contradicts himself; for he has fixed, in his table of observations, the commencement of the snow line on the side of that volcano at 2,490 toises, or 15,956 feet; or near 1,500 feet higher than in the above-mentioned description of that mountain. Nine of the above summits,—as Cayambe, Antisana, Cotopaxi, Tunguragua, Ilinissa, Cocatoche, Corazoro, Sinchaluhua, and Pichincha,—are in sight from Quito, which is itself at the base of Pichincha; whilst the rest are from 4 to 7 leagues distant. Chimborazo is 23 leagues distant, and Carguairazo 21 leagues distant; but both are in view from Pichincha, whilst the Altar and Sangai are 30 leagues distant in the vicinity of Riobamba. The Pico de Horquita belongs to the mountains of Santa Martha, called the Sierra Nevada, and of which it is the highest summit. *Capac Urcu*, or the *Altar Mountain*, whose summit has sunk into its crater, is said to have been once more lofty than Chimborazo; and a great part of *Carguairazo* fell in, in consequence of a volcanic eruption, in 1698. The appearance of *Ilinissa*, with its two pyramidal points, warrants the supposition of its being the wreck of a volcano that has fallen in.[5]

[5] Though all the peaks or summits that crown the table-land of Quito are higher than Mont Blanc, as entering the region of perpetual snow—the inferior limit of which, in this equatorial region, is 15,547 feet, according to Humboldt—yet we are not to infer from this that the ridge of the Andes is generally of this height. We might as well conclude that the ridge, or back of the Alps, is more than 15,000 feet high, because the peaks of Mont Blanc and Mont Rosa attain that elevation. The peaks must be carefully distinguished from the ridge or back on which they rest. The peak of D'hawalager, in the Himalaya chain, is said to be 6,237 feet higher than Chimborazo; Chimborazo is 5,767 feet higher than Mont Blanc; and this last exceeds the height of Mont Perdu, the highest of the Pyrenees, by 4,473 feet. But these heights by no means give the ratio of the relative heights of their respective chains; or, in other words, the height of the backs of the mountains on which the peaks rest. The parts of those backs which form the passes of the Andes, the Alps, and the Pyrenees, present very exact measures of the minimum heights of mountainous chains. By comparing these measures with those of Saussure and Ramond, Humboldt estimates the mean height of the back, or ridge of the Andes in Quito and New Granada, at 3,600 metres, or 11,810 feet; while the backs of the Alps and Pyrenees rise to 2,300 metres, or 7,540 feet. The platform of Tapia, where Humboldt took the base of Chimborazo, is elevated 2,891 metres, or 9,476 feet absolute height; and at the distance of 18¾ British miles from the mountain. Above this station, Chimborazo is

The whole of these summits have at one time or other been volcanoes, so that the whole mountainous district of Quito may be considered as one immense volcano, throwing out flames by different cones, as *Sangay*, *Cotopaxi*, and *Tunguragua*, which belong to the eastern chain of the Andes, and are therefore farthest removed from the coast. The whole of the peaks which crown the western range, except *Rucu Pichincha*, seem to be volcanoes which have been extinguished for a long series of ages. The crater of Rucu Pichincha was smoking when Humboldt visited it its diameter was 4,520 feet, and the cone, covered with ashes, rose to the height of 1,545 feet above the body of the mountain.

Volcano of Cotopaxi.] The most active volcano is that of *Cotopaxi* situated 12 leagues S.E. of Quito, and 140 miles distant from the nearest coast. The form of this volcano is the most beautiful and regular of the colossal summits of the high Andes. It is a perfect cone of 540 toises, or 3,490 feet in height; which, covered with an enormous layer of snow, shines with dazzling splendour at the setting of the sun, and detaches itself in the most picturesque manner from the azure vault of heaven. Its snowy mantle conceals from view even the smallest inequalities of soil,—no point of rock,—no stony mass penetrates the coating of ice, or breaks the regularity of the cone. The inferior limits of this snowy zone, is at 14,472 feet of elevation, or 4,417 feet below the summit of the cone, which is flattened or truncated at the top, and has a crater of 400 toises, or 2,583 feet in diameter, surrounded with a circular wall like a parapet, which renders access to the *caldera*, or cauldron, impossible. Near the brink of the crater are ledges of rocks that are never covered with snow, and seem at a distance like stripes of the darkest hue; owing probably to the steepness of the cone, and the currents of heated air which issue from the volcanic crevices. The masses of scoriæ, and the huge pieces of rock which have been thrown out of the volcano, and are spread over the neighbouring country, would form, if heaped together, a colossal mountain. In 1738, the flames of Cotopaxi rose 2,953 feet above the brink of the crater. In 1744, the roarings of this volcano were heard as far as Honda, on the borders of the Magdalena, a distance of 600 miles. On the 4th of April, 1768, the quantity of ashes thrown out was so great, that in the towns of Hambata and Tacunga, day appeared only at three in the afternoon, and the inhabitants were obliged to use lanterns in walking the streets. The explosion of January, 1803, was preceded by a dreadful phenomenon, the sudden melting of the magnificent mantle of snow that covered the mountain. For 20 years before, no smoke or vapour, that could be perceived, had issued from the crater; and in a single night, the subterraneous fire became so active, that at sunset the external walls of the cone appeared naked, and of the dark colour which is peculiar to vitrified scoriæ. At the port of Guayaquil, 156 miles direct distance, the noises of the volcano were heard night and day, like continued dis-

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11,964 feet of perpendicular elevation, or 355 feet lower than Mont Blanc above the vale of Chamouni. From the plain of Tapia, the summit of Chimborazo presented an angle of only 6.40 above the horizon. Above the plain of Sisgun—which is much nearer than that of Tapia—Chimborazo is elevated only 8,646 feet. About a fourth of its height is covered with perennial snow, and the base of this snowy zone is more than 22,000 feet round, whilst the dome or cupola, 978 feet below the summit, is still 4,380 feet in diameter. From its extreme altitude, and the dazzling whiteness of its snows, it is seen at a great distance: it is distinctly visible from the rock of Muerto, to the S.W. of the Isle of Puna,—a distance of 47 leagues; nay, it is visible at a distance of 180 miles at sea, but merely, however, as a single point, the rest of the Andes being invisible.

charges of a battery: these tremendous sounds were even distinguished on the Pacific ocean, to the S.W. of the Isle of Puna. In these volcanic explosions, running lavas seem totally unknown; but prodigious quantities of mud are thrown out; and, what is surprising, vast quantities of fish, so as sometimes, by their putrefaction, to infect the air. These fish are from two to four inches long, and seem to be little injured by the hot water. They are the same with those found in the rivulets at the bottom of the volcanoes; but they are very rare in the rivulets, which they probably remount, in order to pass to subterraneous lakes. The volcanoes, which are gradually extinguishing, are also gradually filling with water, as in the extinct volcanoes the crater generally forms a lake.

In connexion with these dreadful phenomena, earthquakes are frequent. In 1698, in consequence of an explosion, a great part of the volcano of Carguairazo fell in. Torrents of mud and water issued from the opened sides of the mountain, and laid waste the neighbouring country. This dreadful catastrophe was followed by an earthquake, which, in the adjacent towns of Hambato and Tacunga, swallowed thousands of inhabitants. In 1755, Quito was swallowed up by an earthquake. But the most destructive visitation of this kind took place on the 4th of February, 1797, when, notwithstanding the extreme thinness of the population, about 40,000 of the natives perished, buried under the ruins of their houses, swallowed up in the crevices, or drowned in lakes that were suddenly formed.[6]

From the most eastern range of the mountains of New Granada, a number of projecting ridges are thrown to the east, and traverse the Caraccas and Spanish Guiana in different directions. The province of Maracaibo, in the department of Sulia, is almost entirely encircled with mountains, for at N. lat. 6° 50, the Eastern Andes diverge into two branches. The western runs straight N. till it terminates on the coast W. of Cape Vela; the other, after running 70 miles parallel with the former branch, changes its direction to the N.E. for 200 miles, when it diverges into two separate ranges,—one of these runs N.W. as far as the source of the Tocuyo, a distance of 100 British miles; here changing its direction to the N.E., it runs parallel with that stream, till its entrance into the sea, a distance of 180 British miles. The other branch runs first N.E. and then E. for 200 British miles, when it turns S.E. for 120 miles; and thence running N.E. for nearly 300 miles, finally terminates on the sea-shore at the gulf of Paria. This chain obtains the appellation of the mountains of *Paria* and

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[6] In the town of Quito little damage was sustained; but the subterraneous thunder, and shocks repeated every six hours, spread unceasing horror and dismay. On the 5th, in the evening, it was known that Tacunga, and all the hamlets in its vicinity, were utterly destroyed, not one stone being left on another. Many perished, and the stench of the dead bodies infected the survivors. Near Hambato many mountains split asunder, and by their sudden fall occasioned still greater destruction among the living. Quero, with all its people, was instantaneously buried, by a cliff which fell on the town. Pelileo was overwhelmed by a stream of water, the circumjacent lands were all transposed, and deadly silence declared the general ruin. The elegant town of Ricbamba, 10 miles south of Chimborazo, became one heap of ruins and desolation, and soon totally disappeared; for the peak of Sicalpa falling on the town, and stopping the two rivers that pass by it, formed a lake, so that even the ruins were not visible; of 9,000 inhabitants, only 400 escaped. Alausi also suffered greatly. The fate of Cuenca, Loja, Jaen, Guayaquil, was at that time unknown; but the shocks did not seem to extend so far in that direction. The cause seemed to proceed from the volcano of Tunguragua, as the tremendous subterraneous thunders all proceeded from that quarter. Towards the north, the earthquake was felt as far as Pastos, more than 240 miles direct distance from Riobamba.

New Andalusia, and separates the maritime tract from the plains of the Oroonoko. The N.E. extremity of this chain is the highest part of the range, being upwards of 5,000 feet in perpendicular height. The summit of this part of the chain is destitute of vegetation, and flattened like that of Mowna Roa, in the Sandwich Islands. From the steepness of its descent towards the coast, it resembles a perpendicular wall, and has therefore obtained from Spanish navigators the appellation of the *Mesa*. The form of a very deep valley on the northern declivity, which resembles the inside of a ship, has obtained for the N.E. part of the chain the appellation of the *Brigantine mountains*. These different chains of mountains encircle a number of charming valleys, three of which are remarkable for their elevation above the sea, rising like steps one above another; that of the Caraccas is the highest, being 2,660 feet, according to Humboldt, above the sea; while the basin of Aragua has only 1,350 feet of elevation; and the Llanos, or reedy plains of Moni, are only 600 feet above the level of the shore. The medium height of the cordillera of the coast is from 4,000 to 5,000 feet high. The highest summits are the *Silla de Caraccas*, or the Saddle mountain,[7] the *Picacho*, and the *Tumeriquiri*, which rise respectively 8,635, 8,172, and 5,940 feet above the level of the sea. The *Nevado* of Merida, to the S. of the lake of Maracaibo, and in the chain that encircles it on the S. and E., is the highest known summit in the district, being upwards of 15,000 feet of absolute elevation, and always covered with snow. The northern mountains that skirt the shore, and those that divide the maritime tract from the plains of the Oroonoko, are chiefly calcareous, resting on granite, gneiss, or quartz; and are what are termed, by geologists of the Wernerian school, secondary mountains.

The mountains which traverse the interior of the eastern part of Colombia, or, properly speaking, Spanish Guiana, are primitive mountains, and are denominated by Humboldt, the *Cordillera of the Cataracts of the Oroonoko*. This primitive chain was explored by Humboldt, for a distance of 600 British miles and upwards from the sources of the Rio Negro, as far as the mission of Esmeraldas, the highest Spanish settlement on the Oroonoko. Beyond this point the chain is very little known, running through unexplored and almost inaccessible wilds, occupied by fierce, warlike, and independent savages. This chain leaves the trunk of the Andes, at 3° N. lat., between the sources of the Meta and Guaviari; running N.E. from the paramos of Tuquillo and San Martin; it rises into the lofty summits of *Umama* and *Canavavi*, and pours forth the Meta and other large tributary streams of the Oroonoko; after which it forms the *raudals*, or tremendous rapids of Atture and Maypure, in N. lat. 5°,—the only openings at present existing between the interior of the continent and the plains of the Maranon. Thence, as far as can be judged from Humboldt, the chain proceeds still N.E. as far as the Caroni, the main ridge sending forth lateral branches of 120 leagues in extent. Farther to the E. the chain is little known, as all access to the source of the Oroonoko, and the central mountains, is barred up by the ferocity of the Guiacas and Guajaribos. Beyond the sources of the Oroonoko, this chain was explored in 1780, by Don Antonio Santos, who having made himself acquainted with the various dialects of the Indian tribes, and assumed the Indian dress, passed from the mouth of the Caroni, where it enters the Oroonoko, to the small lake of Parima, and disclosed the continuation of this chain between 4° and 5° N. lat. where it is 60 leagues in breadth, dividing the waters which fall into the Essequibo and Oroonoko from those which descend to the Maranon. This range is lower here than at the head of the Oroonoko, and is denominated the *Serrania de Quimperopaca*, and *Pacaraimo.* A few degrees farther E. it spreads out again, and bends S. to the Canno Pirara, along the Rio Mao, near which is the *Cerro* or hill of *Ucucumao*, consisting entirely of a very shining and yellow mica slate, which procured for it, from the credulity of early travellers, the magnificent appellation of *El Dorado*, or 'the Golden mountain.' Beyond the Essequibo, the range is denominated the mountains of *Tumucurag*, and runs from N. to S. and S.E., dividing Spanish Guiana from Dutch, French, and British Guiana, and giving birth to the commercial streams of Surinam, Berbice, and Maroni. This last range is granitic, and of great extent, the same gneiss being found at 8° 20′ and 2° 14′ N. lat.; and is inhabited by numerous savage tribes, little, or rather not at all known in Europe. That part of the chain immediately to the W. of the Caroni, is denominated the mountains of *Usupama* and *Itamac.* Where the Upper Caroni is separated from the upper course of the Parima, which runs through the lake of the same name, the range is denominated the mountains of Parima. Where it divides the course of the Parima, and the lake, from the streams that descend W. to the Oroonoko, it is denominated the mountains of *Mei* and *Tuguruaca.* The chain of the cataracts of the Oroonoko nowhere rises to a very great height, the mean elevation being only 4,000 feet above the level of the sea. The greatest elevation occurs where the volcanic mountain of Duida, in the vicinity of Esmeraldas, in N. lat. 3° 13′, rears its enormous mass from the midst of a luxuriant plain, clothed with the tropical productions of palms and ananas, and discharging from its steep sides, about the end of the rainy season, volumes of incessant flames. No one has yet had the resolution or perseverance to climb through the tangling and rampant bushes to its peak, which, measured trigonometrically by Humboldt, gave an altitude of 8,465 feet above the sea. The whole mountainous group which forms this range is distinguished by the abrupt descent of its south side: nor is it less remarkable for containing no rocks of secondary formation, or exhibiting any vestige of petrifactions and organic remains, or any casing of sandstone or calcareous matter: being wholly composed of granite, gneiss, mica slate, and horne blende,—substances peculiar to primitive mountains.

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[7] Towards the sea, the Silla rises like a perpendicular wall to the height above mentioned, and presents the steepest precipice perhaps of any mountain in the globe,—the angle of ascent, or degree of slope, being 53° 28′, which renders all attempts to scale it from the sea impossible. The mean average of slope of the peak of Teneriffe is only 12° 29′; that of Vesuvius, 12° 41′; Ætna, 10° 15′; and even the side of Mont Blanc, which faces the Allee Blanche on the south, and which seems so precipitous to the eye, as if it had been cut perpendicularly from top to bottom, has an angle of only 45° of ascent. A slope of 55 degrees is quite inaccessible to human foot; in all the Alps, whether of Switzerland or Italy, not a rock has yet been found, with an angle of elevation perpendicular to the horizon, beyond 1,600 feet in height.

Bays and Capes.] The principal bays on the Atlantic are those of *Portobello, Darien,* and *Zinu*, the bay and harbour of Carthagena, and that of *Santa Martha.* On the Pacific are the bays of *Panama, St Miguel,* and *Guayaquil.* The chief capes on the Atlantic coast are those of *Vela,* and *Puntus Gallinas;* and on the Pacific, those of *Punta Mala, San Francisco,* and *Blanco.*

Rivers.] The *Darien, Chagre,* and *Conception* rivers, fall into the Atlantic; the *Tocuyo, Guiges, Aroa, Yaracuy, Tuy, Unara, Neviri, Manzanares,* and *Guarapichi,* flow N. to the Caribbean sea; down on the coast of the Pacific are innumerable streams, descending from the western face of the Andes to the sea after very short courses. In the interior is the *Magdalena*, with its tributary streams; all the other rivers of this immense tract disembogue themselves into the Oroonoko and the Maranon, already described in our introductory article. The Magdalena is a very large stream, called the *Rio Grande*, or "Great river,' by the Spaniards. It rises in the province of Popayan, from a small lake called Papas, in N. lat. 1° 50′, and W. long. 75° 30′, in the angle formed by the eastern with the central chain of the Andes. Two hundred and ten British miles from its source, it receives the river of *Bogota*, *Pati*, or *Funza*, 35 British miles S.W. of the capital; 200 miles farther down, it receives the *Susabita* formed by the junction of two large streams from an eastern ramification of the Andes, which separates all the streams which run W. into the Magdalena, from those which descend E. to the Oroonoko; 150 miles farther onwards it receives the large stream of the *Cauca*; and 150 British miles below, it enters the Carribbean sea, or Atlantic, after a comparative course of 700 miles. At its mouth it is two leagues broad; and the current is so rapid that large vessels cannot go up the stream, but are obliged to discharge their goods into canoes, which are towed along by the banks, and occupy two months in their passage to where it ceases to be navigable, though they are only three weeks in coming down. Like other tropical rivers, it is subject to great inundations. The river *Cauca* rises on the western side of the central ridge of the Andes, which divides it from the valley of the Magdalena, in lat. 2° 34′, at the pass of Gouanacas, within 100 fathoms of a source of the Magdalena. Its course is parallel with that of the Magdalena, into which it falls after a course of more than 500 miles. Of the scenery along the Magdalena, Mollien says, "the fertile banks of this river, which ought to be covered with cocoa, sugar, coffee, indigo, cotton, and tobacco plantations, and which should present the thirsty traveller with the delicious fruits of the tropics, are covered with thick bushes, bindweed, and thorns, from the midst of which shoot up the cocoa and other palm-trees. The solitude of the forests on its uncultivated borders, the heat that we experienced, and the blacks who, at considerable intervals, were seen seated in their cabins of reeds, surrounded by fields of maize, or cleaving the current of the river in hollow trees, transported me in imagination to the wilds of Africa." The river in many respects reminded our traveller of the Senegal. Other travellers, however, speak in very different terms of the scenery on the banks. The confluence of the Cauca and the Magdalena, below Monpox, is especially interesting. "For a river scene," we are told, "nothing can be more grand than the junction of these two majestic streams, whose waters seem to contend with each other for the superiority; and it is not till after a distance of several leagues, that the clearer stream of the Cauca is ultimately engulfed in the more muddy Magdalena. At the point where they meet, the scenery is strikingly beautiful; the banks of each being clothed with wood. The picturesque little village of Pinto, built in a grove of cocoanut trees, and characterized by two mango-trees in the centre, (a peculiarity observable in most of the villages on the river,) forms a beautiful object on the west bank, at the spot where the rivers meet. Fine rising woodlands to the S.W., and the mountains to the N., add greatly to the grandeur and majesty of the scene."

Fall of Tequendama.] "The elevated plain on which Bogota stands," says M. Humboldt, "resembles, in a variety of circumstances, that which is surrounded by the Mexican lakes. Each of these plains is higher than the summit of St Bernard, the first being about 8,800 feet, and the second 7,440 feet above the level of the ocean. The valley of Mexico is bounded by a circular wall of mountains of porphyry, and its centre is covered with water; for the numerous torrents which rush into the valley found no outlet until the Europeans had dug the canal of Huehuetoca. The plain of Bogota is also encircled with lofty mountains; and the perfect level of the soil, its geological structure, the form of the rocks of Suba and Facatativa, which rise like small islands in the midst of the savannas, seem all to indicate the existence of an ancient lake. The river of Funzha, usually called the *Rio de Bogota,* into which flow the waters of the valley, forced its way through the mountains to the S.W. of Bogota. Near the farm of Tequendama, this river rushes from the plain by a narrow outlet into a crevice, which descends towards the basin of the river Magdalena. Were an attempt made to close this passage, which is the sole opening out of the valley of Bogota, these fertile plains would gradually be converted into a sheet of water like the Mexican lake." The *salto,* or fall of the Rio de Bogota, is 650 feet in depth, but composed of two leaps down a nearly perpendicular rock. This overwhelming body of water, "when it first parts from its bed, forms a broad arch of a glassy appearance; a little lower down it assumes a fleecy form; and ultimately, in its progress downwards, shoots forth into millions of tubular shapes, which chase each other more like sky-rockets than any thing else I can compare them to. The changes are as singularly beautiful as they are varied, owing to the difference of gravitation and the rapid evaporation which takes place before reaching the bottom. The noise with which this immense body of water falls, is quite astounding; sending up dense clouds of vapour, which rise to a considerable height, and mingle with the atmosphere, forming in their ascent the most beautiful rainbows. The most conclusive proof of the extraordinary evaporation, is the comparatively small stream which runs off from the foot of the fall. To give you some idea of its tremendous force, it is an asserted fact, that experiments have more than once been made of forcing a bullock into the stream, and that no vestige of him has been found at the bottom, but a few of his bones. To give due effect to this mighty work, nature seems to have lavished all the grand accompaniments of scenery, to render it the most wonderful and enchanting of objects. From the rocky sides of its immense basin, hung with shrubs and bushes, numerous springs and tributary streams add their mite to the grand effect. At the bottom, the water which runs off rushes impetuously along a stony bed, overhung with trees, and loses itself in a dark winding of the rock. From the level of the river, where you stand to witness this sublime scene, the mountains rise to a great height, and are completely covered with wood; and at one opening is an extensive prospect, which, on a clear day, encompasses some distant mountains in the province of Antioquia, whose summits are clothed with perpetual snow. Hovering over the frightful chasm, are various birds of the most beautiful plumage, peculiar to the spot, and differing from any I have before seen. Although the river loses, in falling, a great part of its water, which is reduced to vapour, the rapidity of the lower current obliges the spectator to keep at the distance of nearly 450 feet from the basin dug out by the fall. A few feeble rays of noon fall on the bottom of the crevice. The solitude of the place, the richness of the vegetation, and the dreadful roar that strikes upon the ear, contribute to render the foot of the cataract of Tequendama one of the wildest scenes that can be found in the cordilleras." The column of vapour, rising like a thick cloud, is seen from the walks round Bogota at 5 leagues' distance.

Natural Bridge of Pandi.] "The valley of Icononzo, or Pandi," says Humboldt, "is less remarkable for its dimensions than for the singular form of its rocks, which seem to have been carved by the hand of man. Their naked and barren summits present the most picturesque contrast with the tufts of trees and shrubs which cover the brinks of the crevice. The small torrent which has made itself a passage through the valley of Icononzo, is called *Rio de la Suma Paz*: it falls from the eastern chain of the Andes, which divides the basin of the Magdalena from the vast plains of the Meta, the Guaviare, and the Orinoco. The torrent, confined in a bed almost inaccessible, could not have been crossed without extreme difficulty, had not nature provided two bridges of rocks. The deep crevice through which it rushes, is in the centre of the valley of Pandi. Near the bridge, the waters keep their direction from E. to W., for a length of between 4 and 5,000 yards. The river forms two beautiful cascades at the point where it enters the crevice on the west of Doa, and where it escapes in its descent towards Melgar. This crevice was probably formed by an earthquake, and resembles an enormous vein from which the mineral substance has been extracted. The neighbouring mountains are of grit-stone (*sand-stein*), with a clay cement. In the valley of Iconozo, this grit-stone is composed of two distinct rocks; one, extremely compact and quartzose, with a small portion of cement, and scarcely any fissures of stratification, lies on a schistous grit-stone with a fine grain, and divided into an infinite number of small strata, extremely thin, and almost horizontal. It is probable that the compact stratum resisted the shock which rent these mountains, and that it is the continuity of this stratum which forms the bridge. This natural arch is 46 feet in length and nearly 40 in breadth: its thickness in the centre is about 7 feet. Experiments carefully made gave us 312 feet for the height of the upper bridge above the level of the torrent. The Indians of Pandi have formed, for the safety of travellers, (who, however, seldom visit this desert country,) a small balustrade of reeds, which extends along the road leading to this upper bridge. Sixty feet below this natural bridge is another, to which we are led by a narrow pathway, which descends upon the brink of the crevice. Three enormous masses of rock have fallen so as to support each other. That in the middle forms the key of the arch; an accident which might have given the natives an idea of arches in masonry,—as unknown to the people of the New World as it was to the ancient Egyptians. I shall not attempt to decide the question, whether these masses of rock have been projected from a great distance, or whether they are the fragments of an arch broken on the spot, but originally like the upper natural bridge. The latter conjecture seems probable, from a similar event which happened to the Coliseum at Rome, where, in a half-ruined wall, several stones were stopped in their descent, because, in falling, they accidentally formed an arch. In the middle of the second bridge of Icononzo is a hollow of more than 8 yards square, through which is perceived the bottom of the abyss. The torrent seems to flow through a dark cavern, whence arises a lugubrious noise, caused by the numberless flights of nocturnal birds that haunt the crevice, and which we were led at first to mistake for those bats of gigantic size so well known in the equinoctial regions. Thousands of them are flying over the surface of the water. The Indians assured us that these birds are of the size of a fowl, with a curved beak and an owl's eye. They are called *cacas;* and the uniform colour of their plumage, which is a brownish gray, leads me to think, that they belong to the genus of the *caprimulgus*, the species of which are so various in the cordilleras. It is impossible to catch them, on account of the depth of the valley; and they can be examined only by throwing down rockets to illumine the sides of the crevice. The height of the natural bridge of Icononzo above the ocean is 2,850 feet. A phenomenon similar to the upper bridge exists in the mountains of Virginia, in the county of Rockbridge. The natural bridge of Cedar Creek, in Virginia, is a calcareous arch of 56 feet at its opening: its height above the waters of the river is 224 feet. The earthen bridge of Rumichaca, on the declivity of the porphyritic mountains of Chumban, in the province of Los Pastos; the bridge of *Madre de Dios*, or Danto, near Totonilco, in Mexico; the pierced rock near Grandola, in the province of Alentejo, in Portugal; are geological phenomena, which bear some resemblance to the bridge of Icononzo. But I doubt whether, in any part of the globe, a phenomenon has been discovered so extraordinary as that of the three masses of rocks which support each other by forming a natural arch."

Lakes.] The principal lakes in Colombia are those of *Maracaibo, Parima, Ipava, Amaca,* and *Valencia.* Of these the lake of Maracaibo is best known, and most deserving of notice. The lagoon of Maracaibo is nearly in the form of a decanter, lying from N. to S., its neck communicating with the sea. It is 150 miles long, by 90 miles of greatest breadth; and 450 miles in circumference. It is deep, and navigable for vessels of the greatest size; but the entrance to it is obstructed by a bar of sand. When strong breezes prevail, its waves are so violently agitated as to overwhelm the canoes and small craft; but it is seldom visited by hurricanes. Its water is fresh; but when a gale blows strongly from the sea, it acquires a brackish taste, from its mixture with the waves of the sea. The tide is more perceptible on this lake than on the sea-coast. It abounds with every species of fish which the rivers of South America produce, with the singular exception of the tortoise; but its shores are so sterile and noxious as to discourage industry and population, insomuch that the Indians prefer dwelling in huts erected, by a particular construction, on the lake itself. To the N.E. of the lake, at a place called Mina, in the most barren part of its borders, is an inexhaustible mine of mineral pitch. The vapours exhaled from this mine are so inflammable, that, during night, phosphoric fires are continually seen hovering above it, which serve as a light-house and compass to the Indians and Spaniards who navigate the lake. A vast number of rivers and rivulets discharge themselves into the lake from the mountains, that encompass it in the form of a horse shoe.

The lake of *Valencia*, though small, when compared with that of Maracaibo, is a much more pleasing and interesting object, both in point of beauty and utility. It is of an oblong form, 40 miles long, by 12 of greatest breadth. Though fed by 20 rivers, this lake has no visible outlet, and yet neither its depth nor its extent appear to increase. The contributions from so many rivers may perhaps be no more than sufficient to supply the drain caused by the constant and dense evaporation of a tropical sun; and there is no necessity to have recourse, with Depons, to the theory of a subterraneous passage, to account for the fact, as lakes are to be found in other parts of the world which, like this lake, receive many rivers and have no visible efflux. Nothing can be imagined more magnificent and delightful than the surrounding scenery. The rich and beautiful valley in which it lies, surrounded with mountains, except on the W., and the numerous islands scattered over its surface, give it a striking similarity to Loch Lomond, the most interesting of our Scottish lakes.

The three other lakes being situated in the very centre of Guiana, and amidst mountains, have never been explored by Europeans, and are only known in the relations of early travellers, and figured on maps. The famed lake of *Parima*, called also *Paranapitinca*, or 'the White sea,' was the theme of former wonder, and celebrated as the noted seat of *El Dorado*, or 'the Golden city,' the streets of which were paved with gold, and shone like the sun; and which fable occasioned the death of many a daring adventurer, and turned the head of poor Raleigh. According to La Cruz, it is 100 British miles in length, by 50 in breadth; but from the report of Don Antonio Santos, this lake is of little consequence; as he was informed by the Indians that it was of small size and depth.

CHAP. III.—CLIMATE—SOIL—PRODUCTIONS.

Climate and Seasons.] Under the tropics, what are usually termed winter and summer, mean only the wet and dry seasons, and the former is often superior in warmth. The dry season may be regarded as the coldest and most healthy, somewhat re-invigorating the inhabitants enervated by the climate. At Guayaquil, the rainy season continues from January to June; and the dry from June to December. The inundations are so great at Guayaquil, that the coast is one sheet of water up to the sides of the Andes, where the inhabitants retire with their herds. Fevers, diarrhœas, dysenteries, vomiting, and spasms, then prevail, and the mortality is great. The temperature of the air at this place, is so uniformly between 29° and 32° of the centigrade thermometer, that the people complain of cold when the thermometer suddenly falls to 23° or 24°. At Carthagena, the rainy season lasts from May to November. From April to December, the heats are so terrible and destructive, when the black vomit prevails. At Santa Martha, the climate is more cool and healthy. At Popayan, in the interior, the driest months are June, July, and August, when the south winds blow from the snowy mountains and paramo of Purasi. On the table-land from Quito to Popayan, it may be said to be an eternal spring, the temperature being uniform during the whole year, notwithstanding that violent storms of thunder and lightning frequently occur. At Bogota, the climate is unexpectedly cold considering its latitude, but still it may be almost deemed a perpetual spring. On the declivity of the Andes, from 3,000 to 5,000 feet in height, a soft spring temperature perpetually reigns, never varying more than seven or eight degrees of Fahrenheit. The extremes of heat and cold are equally unknown, the mean heat of the whole year being from 68 to 70 degrees.[8]

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[8] Under the equator, it has been calculated, that heat near the terrestrial surface, diminishes one degree of Fahrenheit's scale for every 324 feet of perpendicular elevation. At 10,000 feet of elevation, one degree of heat is lost for every 297 feet; and at the height of 20,000 feet, one degree is lost for every 218 feet. The mean temperature of the table-land is the following:—at Quito, 59°; Bogota 60° 6′; Loja, 66° 6′; Popayan, 65° 6′, whilst at Caraccas it is 70° 40′, and at Valencia 78° 25′. On the plains of the Orinoco, elevated at 500 feet, though the high temperature is 115° of Fahrenheit, yet the medium temperature is 78° 25′. The mean heat of the Pacific coast is 80° 11′, and that of the Atlantic coast 82° 56′. The mean heat of the interior is 80° 67′, that of the plain of Venezuela being 88° 4′. We have thus three climates, that of the coasts, the interior, and the high table-lands.

The alternation of mountains and valleys peculiar to the northern parts of this country, occasion a considerable diversity of temperature; and the vegetable productions of distant countries, here meeting with a congenial climate, are frequently found concentrated within a comparatively small compass. At intervals, rich valleys open, and the sides of the mountains are covered with the finest trees. In travelling from the coast to the interior, Europeans experience a great and enlivening change from the hot air of the level plains to the pure and cool air prevalent in the mountainous regions. Thus, from the elevated city of Caraccas, though situated in 10° 31′ N. lat. the highest range of the thermometer in summer is 85°, and in winter 76°; and the minimum of heat in winter is 52° of Fahrenheit. From difference of situation, the mean annual temperature of Cumana is six degrees of the centigrade thermometer hotter than Caraccas; and the inhabitants shiver with cold when the temperature is 73 degrees of Fahrenheit. This excessive heat is caused by the reverberation of the soil partly stripped of vegetation, and its low situation. The seasons here are divided into winter and summer, which may be more properly designated the dry and wet season. During the former, the plains are parched with excessive heat, the grass withers to the roots, and the soil becomes hard and baked; the cattle, enveloped in the daytime with clouds of dust, run panting with oppressive thirst; but the more sagacious mule, with his hoof cautiously thrusts aside the prickles of the water-melon, and sucks a refreshing beverage. The rainy season commences in April, and continues to November; it is calculated by Depons, that one day with another, it rains three hours each day, and oftener in the evening than in the morning. The quantity of rain which falls during the season, in Venezuela, Guiana, and Cumana, is nearly equal; and the benefits and disadvantages are shared by the mountains, valleys, and plains. The drizzling rains of other zones are never felt here; nor can we who dwell in the temperate regions, form a just notion of the vast and sudden rains of tropical climes,—those aqueous discharges precipitating themselves like water-spouts, and producing more moisture in a single day than the rains of Europe in six. The effects of these rains in overflowing the country have been noticed, when treating of the inundations of the Oroonoko. The excessive humidity of tropical regions, is one cause why the rivers of South America excel all others in the immense volume of their waters.

Earthquakes.] No country has been more frequently visited with destructive earthquakes than the coast of the Caraccas. To attempt to assign the physical cause of this frequency would be vain, as the cause of earthquakes is still involved in obscurity. The city and province of Cumana, seem to be the quarter where these are felt in the greatest violence. They are connected with those of the West Indies, and are even suspected of having some connexion with the volcanic phenomena of the Andes. The great earthquake which destroyed so many cities and villages in the plain of Quito, in February, 1797, was followed by a visitation equally destructive, at Cumana, on the 14th of December, the same year. At the same period, the inhabitants of the Eastern Antilles were alarmed by shocks which continued eight months; and the volcano of Guadaloupe threw out pumice stones, ashes, and gusts of sulphureous vapours. In the Caraccas, as in Peru and Chili, the shocks follow the course of the shore, and extend but little inland. They are generally preceded by subterraneous noises. The earthquake of 1766 was preceded by a drought of 15 months' continuance; the whole of the houses were overwhelmed in the space of a few minutes, and the shocks were hourly repeated during 14 months. In several parts of the province of Cumana, the earth opened and threw out sulphureous waters, especially in a plain two leagues east of Cariaco, known by the name of 'the hollow ground,' because entirely undermined by hot springs. The year 1794 was remarkable for a visitation of the same sort. The shocks of 1766 and 1794, were mere horizontal oscillations: but on the above-mentioned disastrous 14th of December, 1797, the shocks were vertical; and for the first time, the motion was felt by the heaving up of the ground. More than four-fifths of the city were entirely destroyed; and the shock, attended by a very loud subterraneous noise, resembled the explosion of a mine at a great depth. Happily, the most violent shock was preceded by a slight undulating motion, so that the greater part of the people escaped to the streets, and a small number only of those perished who had assembled in the churches. A most awful visitation of this kind took place in the province of Venezuela, on the 26th of March, 1812. The shock was slight at first, but it increased during the space of a minute, and terminated in a sharp and jerking motion, which in the course of two seconds laid Guayra, Caraccas, St Carlos, Barquisimeto, and many other towns in ruins. In Guayra above 1,500 persons perished, and altogether more than 12,000 persons lost their lives in this terrible catastrophe, which happened upon Holy Thursday. The total ruin of the city of Caraccas, preceded the explosion of the Suffriere volcano, in the island of St Vincents, just 35 days,—a fresh proof of the extraordinary connexion, between these earthquakes and those of the West India Islands; for the Suffriere had emitted no flames since 1718, till April, 1812, when the eruption was preceded by repeated earthquakes for 11 months.

Soil and Produce.] There are few countries on the globe where Nature has been more prodigal of her favours than Colombia. This fertility and beauty of verdure which always delight the eye, is owing partly to its tropical climate, and in no small degree to the innumerable fine rivers which pour forth their fructifying streams in all directions. Not a valley but has its corresponding river, which if not large enough to be navigable, is at least sufficient to irrigate plantations. The rivers on the coast, flowing from the mountains to the sea, are generally strongly fenced in by their high banks, and happily favoured by the declivity of their channels, seldom overflow in their progress; and when they do, their inundations are neither long nor detrimental. Those, on the contrary, which flow S. to the Oroonoko, flowing through level grounds, and in shallow beds, mingle their waters during a great part of the year, and lose all appearance of rivers in the general inundation. In this genial clime, Nature has displayed her prolific powers in the rich variety and splendid profusion of trees, and shrubs, and plants. Here is the region of eternal spring; and flowers and fruits cluster the boughs in constant succession. Nothing can exceed the beauty, the variety, and grandeur of the forests within this tropical region. Thick intermingled trees of majestic port and every varied hue rear their lofty heads, crowned with odorous flowers, and spreading with umbrageous and resplendent foliage; while creeping plants, mantling in rich luxuriance, interlace the smooth trunks with endless festoons. Dense woods of this composition, interrupted only by some rivers, spread over a space of more than 1,500 miles, from the shores of the Oroonoko to those of the Maranon. It is on the banks of the Oroonoko, especially, that Nature is beheld in all her beneficent and majestic grandeur, captivating the eye of the naturalist by the profusion and variety of her productions. Its banks, and those of its tributary waters, are covered with a rich mould, of vast depth and amazing fertility, and constantly increasing by the annual depositions of the inundations, but condemned to be choked by its own exuberance and the indolence of man; at other times, the immense plains, covered with excellent pasture, enable the observer to cast his eyes, fatigued with being confined by forests, over a verdure that bounds his horizon for the space of 20 or 30 leagues.

The forests are clothed with every species of wood to be found in the Antilles, besides a great many peculiar to themselves. The most extensive docks might be supplied for ages from the mountains of Paria, with timber of the finest quality; and carpenters and cabinet-makers find such variety of materials for their different purposes, that their principal difficulty is to make a selection. The *pardillo*, cedar, and black, yellow, and red ebony, are very common in the forests; but mahogany is neither so abundant nor so fine as in Spanish St Domingo; yet in richness and in variety of colouring, no mahogany can vie with the *muzo* or the *chicaranda*, a native of Caraccas, which, when properly polished, possesses a degree of beauty, which no species of timber can, perhaps, exceed. For works which require timber of extraordinary hardness, they employ iron-wood, or red ebony, which is still harder. The oaks on the slope of the Andes never descend below an elevation of 5,500 feet; beyond the limit, of 9,200 feet, large trees of every kind disappear. No firs are to be found in the mountains of South America between the tropics, though they are very abundant in North America. The upper limit of trees on the Andes of Quito, is (according to Humboldt) at the elevation of 11,625 feet, and 4,122 feet below the limit of perpetual snow,—a remarkable difference this from those of Mexico, in 20° N. lat., where the pines reach an elevation of 13,123 feet, or within 1,968 feet of the line of perpetual snow. The grasses clothe the ground, at an elevation of from 13,500 to 15,100 feet; and from this, to the regions of ice and snow, the only plants visible are the lichen, which covers the face of the rocks, and seems even to penetrate under the snow. The dying woods of the eastern districts are superior to those of Campeachy; and the mahogany of Panama excels all others. Fruit trees are abundant, and very productive. The *chirimoya* of Popayan sometimes weighs 10 or 12 lbs. The famed balsam of Tolu is so called from a village in the neighbourhood of Carthagena. The best cochineal is from Sogamoso. A varnish, called *mopamopa*, is the resin of a tree in the district of Pastos, and said to equal the Chinese. The only wood fit for dying, which has yet been found in Caraccas, is the Brazil wood; but the fact is, that the forests of this favoured country have been so little explored, that their treasures are very little known. The quantity of sarsaparilla produced here, is more than sufficient for the consumption of all Europe. Sassafras and liquorice abound in the vicinity of Truxillo. Squills are found on the sea-beach of Lagunetas; storax, in the jurisdiction of Coro; cassia, in almost every part of the country; and *gayac*, on the coast. Aloes are raised in Carora. A species of quinquina, or Jesuits' bark, is found in the mountains. In short, the pharmacopœia of both continents might be supplied from the vegetable stores of Colombia. Vanilla is produced in great abundance, especially on the banks of the Tuy. Its worth is about £5 sterling, per lb.; and the province of Venezuela might, with some attention, be made *to produce 20,000 lbs. of this plant annually. Wild cochineal grows in great quantities, in the departments of Coro, Carora, and Truxillo.*

The *guadua* bamboo was found by Messrs Humboldt and Bonpland, on mountains to the height of 860 fathoms; and what is still more remarkable, these mountain-trees, though growing upon a soil equally damp, contained more water than those of the level country. In more elevated regions the tree grows separately in the thickets; but in the plains, and to the height of 400 fathoms, it forms extensive woods. The bamboo belongs to the plants that grow in society. The American bamboos render the same services in the new world as those of the East Indies in the old. Whole houses are built of the *bambus guadia.* The oldest and thickest trunks are employed for the walls; the roof is formed with the smaller, and these are covered with the young branches that have leaves. The doors and household furniture also are made of bamboo. The advantages which cause the Americans to prefer the use of the bamboo to that of the hard wood of the lofty trees which everywhere grow in the vicinity of their habitations, consist in the facility with which it may be felled and wrought, in its durability, and the coolness enjoyed in houses constructed with it, owing to the free current of air which they afford.

The cacao, or chocolate tree, is a principal agricultural production of the Caraccas. This tree dreads the rays of a vertical sun, and is protected by trees of a taller growth. This indigenous production naturally attracted the attention of the early settlers, and was soon adopted as one of their favourite aliments; and in the mother-country, the relish for chocolate became so strong, that it was regarded as more indispensable than even bread. Plantations of it were accordingly multiplied here; and the congenial soil, realizing the utmost hopes of the planters, yielded crops equally abundant and excellent. The cacao of Caraccas and Magdalena is superior to all others, except that of Soconusco, in Guatemala, to which only it is inferior.

Cacao continued the principal article of cultivation till 1774, when the culture of indigo was introduced; and it was soon ascertained that the soil was equally adapted for rearing it. Most of the new plantations were, therefore, prepared for this new species of cultivation; and immense plains, till then neglected, were soon covered with plantations of this valuable article. The valleys of Aragoa—where it was first cultivated—displayed an unexampled rapidity of increase; the profits derived from its cultivation, and the great concourse of cultivators and traders, occasioned villages to spring up as if by enchantment in the desert, and caused many towns, as Maracay, Vittoria, and Talmenia (before decayed), to assume the character and consistence of cities. The cultivation of this plant has extended from the valleys of Arragoa to the S.W. as far as Varinas; and both in raising and preparing the indigo for exportation, the planters here excel. The annual mean exports of indigo from 1747 to 1778, by way *of La Guayra, was 20,000 lb. In 1796, they had gradually risen to 740,000 lb.,* exclusive of the contraband trade which is supposed to have *amounted to 160,000* lb. more. The total produce of Venezuela, in the most prosperous times, was 40,000 arrobas (or a million of pounds), the value of which exceeded 1,250,000 dollars. That of Guatemala did not exceed 60,000 arrobas. But the East India Company, which, in 1786, did not draw from its vast possessions more than 250,000 lb., sold in London, in 1810, upwards of 5,500,000 lb.

Cotton, though an indigenous production, was so much *neglected that* till 1782, about 100 plants formed the largest plantation. The success of the indigo-plantations, however, induced the planters at length to make the same experiment on cotton, and the result was so flattering, that the cotton-plant soon occupied a large portion of the valleys of Aragoa, Valencia, Arauri, Barquisemeto, Varinas, Cumana, and several other places in the government.

The culture of coffee was introduced in 1784. The quantity raised is still, however, inconsiderable, as, independent of the internal consumption it does not exceed 1,000,000 lbs. annually; and less attention is paid to its culture and preparation, as well as in gathering the crops, than to cacao and indigo.

Sugar is also cultivated, but in the Caraccas it enjoys only a secondary importance, as, independent of home-consumption, scarcely any of it is exported. The amount of the quantity consumed in the province, furnishes a satisfactory solution of this. The whole population of the Caraccas, without exception of colour, rank, or pedigree, make it the principal article of their food. An intoxicating beverage, called *guarapo*, of which all classes, especially the inferior orders, are passionately fond, is produced by the fermentation of sugar in water. In the banquets of the rich, confectionary holds the most distinguished place. These desserts consist sometimes of 200 or 300 dishes of sugars, tastefully arranged, and moulded into every shape that can excite the admiration of the company; there is not a single negro whose general meal does not consist of a little cacao boiled in water, and a large lump of coarse sugar which he eats as bread. Notwithstanding the excellence of the soil, however, the sugar, from want of due care and skill in the different stages of its preparation, is much inferior in crystallization and whiteness to that of other countries.

The cultivation of tobacco under the old regime was, as in Mexico, a royal monopoly subject to the control of a director-general. It is still a state monopoly; and its cultivation is restricted to certain districts and certain persons, particularly in the environs of the charming lake of Valencia, where the tobacco plantations employ about 15,000 persons.

Other agricultural productions, as maize, potatoes, plantains, *yucas*, *curas*, and ignames, are reared in great abundance in this genial climate, especially the last, which is a root of such magnitude as sometimes to weigh 25 lbs. Still, however, amidst all this exuberance of nature, agriculture is so imperfectly known, and so languidly pursued, from the indolence of the Spanish colonists, that not the thousandth part of those productions which this favoured spot might easily yield, is raised. A traveller is astonished at finding the plantations of a country, perhaps the most lovely and luxuriant in the world, so trifling and unproductive; a planter is thought rich, whose annual income is from £900 to £1000 sterling; nor are there twenty plantations in the whole country which yield more. So little attention is paid to agriculture in the province of Choco, to the W. of the Cauca, between Antioquia and Darien, that it still remains nearly in the same uncultivated state as when first discovered—a thick impervious forest, without pasturage and without roads. The price of necessaries was so exorbitant here, when Humboldt wrote, that North American flour sold from £14, 8*s.* to £20, 5*s.* sterling per barrel; the maintenance of a muleteer cost 4*s.* 6*d.* or 6*s.* 9*d.* daily; and the price of a cwt. of iron was sometimes £9 sterling. The miserable state of things was chiefly owing to a population which consumed without producing.

A number of causes co-operate to produce this backward state of things, *throughout Colombia,*—as *the want of capital,* and the consequent high interest of money, and the number of mortgages with which every plantation is more or less burdened. Such is the pride of the Spaniards, that however poor they really are, they must still maintain the appearance of wealth, which of course subjects them to great embarassments. The pious legacies and prebends with which many estates are encumbered, is another serious obstacle to agriculture. These, accumulating from generation to generation, cannot be bought up by payment of the capital, and the planter is thus kept under obligation to pay the interest. Estates thus encumbered are very often sequestrated; and pass with the same charges to another planter, who is threatened with the same fate. An ordonance was, however, enacted in 1802, against such pious donations. Another evil is the carelessness of the planters themselves, who being too proud to take the management of their plantations into their own hands, generally commit them to overseers; residing in towns, and living above their income, they seldom visit their plantations above once a-year. The few plantations that prosper, are those conducted by the proprietors themselves. Another obstacle to colonial prosperity under the old regime, was the passion for public employments. So strong was it, that the prospect of unbounded wealth from a large and rich plantation, could not induce a Spaniard to relinquish his desire of military rank, a place in the finances, a judicial office, or the cross of an order; men accustomed to such stupid ambition can never stoop to manage the concerns of a plantation. "Yet," says a late traveller, "the agriculturist in this country has an excellent method of availing himself of the services of his slaves, almost free of any expense. Each man or family receives a certain portion of land, called a *conuco,* which he cultivates for his own support; for this purpose he is left at liberty a day in each week. A taste for husbandry is hereby acquired, which in the end is beneficial to the estate. Five days are devoted to the *hacienda,* and on Sunday they are again free. After hearing mass, in which they are very punctilious, the rest of the day is devoted to dancing, a recreation which the blacks are passionately fond of."

Animal Productions.] This country abounds in every variety of the animal kingdom. In the province of Venezuela alone in 1787, according to Estalla, the number of horned cattle was 649,153; of horses, 144,866; mules, 7,551; besides sheep and goats innumerable. The number of horned cattle have, however, since declined, from the great demand for tallow and hides, which caused an indiscriminate slaughter of these animals; so that their number, in 1800, according to Depons, amounted only to 200,000; the horses, 180,000; and the mules, 90,000; both these latter are raised chiefly for exportation to the other states. Cattle are equally numerous in the other provinces; but in Cumana, where the immense pastures annually reared vast numbers, the commons have been so ravaged of late years by numerous gangs of robbers, that in these districts the inhabitants can with difficulty procure animal food. The capuchins of Guiana are distinguished by their wealth in cattle, fed on the plains of the Oroonoko, amounting to more than 150,000 head. Throughout the whole province of Guayaquil, vast numbers of cattle are reared, especially where there are mountainous tracts to afford a retreat during the inundations; these are brought down when the land is dry, and fattened on a plant called *gamalotte,* resembling barley in its blade, and which grows in such luxuriance, as entirely to cover the plains, even to the height of seven or eight feet. It is remarked, however, that most of the domestic animals, as the bull, the cow, the ass, the sheep, &c. which have been imported from Europe, and suffered to run wild on the savannahs of Guiana, and on the banks of the Oroonoko and its confluent streams, greatly degenerate both in size and flesh, in consequence, it is conjectured, of the perpetual perspiration to which they are exposed, and the coarseness of the grass on which they feed. The sheep are remarkably diminutive, and their wool is converted into long hair. The hogs, on the contrary, are large and fat, and superior to those of Europe. The goats are large and beautiful animals, and common in all parts of the country.

As to wild animals, the tapir, the jaguar, and puma, are well known. Of these the *jaguar* is the largest and most ferocious. Though not striped like the tiger, but spotted, yet it is generally denominated the American tiger, and, like its Asiatic namesake, is a most dreadful animal. Humboldt mentions, that while he was in the Caraccas, he saw the skins of two jaguars, in size nearly equal to those of Bengal. Ulloa relates, that in passing from Quito to the Pacific, he saw many Indians in the province of Esmeraldos, who had been lamed by these animals, and that ten or twelve Indians had been torn to pieces by them two or three years before. They are not numerous, but—as Ulloa remarks—one or two of them are sufficient to desolate a whole country, The *puma* like the lion, rarely attacks man, and is smaller than his neighbour of Africa. The cougar is equally ferocious with the jaguar, but not so thick and strong. There are two or three species of wild cats, but they are little dangerous. Wild boars and deer are common. The ant-eater is a most extraordinary animal, often weighing from 150 to 200 lbs., and measuring eight feet from the snout to the tip of the tail. It has a small head covered with hair as soft as velvet, and a tail immensely large, flat, and covered with long hair like that of a horse, and as strong as the bristles of a hog, with which during a shower, or when asleep, he covers his whole body. His feet are armed with long claws, with which he can defend himself against any dog, and even against the tiger, and never quits his hold while he has life. He has a long slender tongue resembling a worm, sometimes near two feet long, and always moistened with saliva of a sweetish taste; this he thrusts into the ants' nests, who settle upon it in crowds, when he draws it into his mouth, and devours them. Ants are extremely numerous in Guiana, and prove very destructive to the stores, especially of sugar in the plantations. Their immense nests of black earth built on the trunks of trees, are often so high as to resemble black bears at a distance; and the hillocks on the ground, are sometimes 16 feet high, and nearly 100 feet in circumference. Some of these ants are above an inch long, and cause great pain by their bite. A small kind, called the fire ant, which flies in great numbers, causes a sensation like that proceeding from boiling water. Insects are, in general, extremely numerous. There is a species of centipede, a yard in length, whose bite is mortal, causing death in 24 hours. The numbers of the insect tribes are prodigious at Carthagena and Guayaquil, where it is impossible to keep a candle burning except in a lantern, as it would otherwise be extinguished in a few minutes by the multitudes flying around it. Bats are so numerous at Carthagena, as to cover the streets like clouds, and are extremely troublesome.

Of amphibious animals, the *cayman*, the *iguana*, the *manati*, the *liron*, the *lapa*, and the water-dog are the most remarkable. The caymans and jaguars often engage in combat on the banks of the Oroonoko. The jaguar quits his recess in the woods, and walks along the banks of the streams, where the cayman is wont to bask in the solar rays, and watches his movements. As soon as he sees an opportunity of surprising him, or that he is asleep, he springs on him directly, and fastens his talons on his hard and impenetrable shell. If the cayman is young he is lost; if strong, he immediately darts into the water, and drowns the tiger, and then takes him in his fangs and devours him on the bank.

But of all the animals that live in the water, the *gymnotus electricus*, or electric eel, called *tremblador* by the Spaniards, and *anguille trimblante* by the French colonists of Guiana, is the most wonderful, as possessing the singular faculty of stunning its prey by an electrical shock. This eel abounds in the rivers and lakes of the low lands of Venezuela, but is most frequently found in the small stagnant pools, dispersed at intervals over the immense plains between the Apure and Oroonoko. An old frequented road near Urituco, has been actually abandoned, on account of the danger experienced from crossing a ford, where the mules were, from the effect of concealed shocks, often paralyzed and drowned. Even the angler sometimes receives a shock from them, conveyed along the wetted rod and fishing-line. This eel is of considerable size, being about six feet long. The sensation which it occasions is highly painful, and leaves a numbness in the parts affected; it indeed resembles more the effect of a blow on the head, than the shock of a common electric discharge.[8]

"Besides an infinity of fish found in the Oroonoko, tortoise, or turtle," says Gumilla, "abound in such numbers, that I cannot find words to express it. I doubt not but that such as read my account will excuse me of exaggeration; but I can affirm that it is as difficult to count them, as to count the sands on the banks of that river. One may judge of their number, by the amazing consumption of them; for all the tribes contiguous to the river, and even many who are at a distance, flock thither at the season of breeding, and not only finding sustenance during that time, but carry off great numbers of the turtles and their eggs."

Mineralogy.] With respect to the Caraccas and Guiana, this is a meagre subject. Here, as in other parts of Spanish America, the attention of the first conquerors was exclusively directed to the discovery of gold and silver mines. Four gold mines were at length found, after a long search, and wrought for some time under the name of *St Philipe de Buria*; but they were abandoned in 1554, in consequence of a revolt of the negroes and natives. Several fruitless attempts were made to renew the working of these mines, till at length they were totally abandoned. Another mine was discovered in the vicinity of St Sebastian de los Reyes, but was soon obliged to be abandoned by repeated insurrections of the Indians, in the last of which, they massacred all the miners, and demolished the works. Two gold mines were discovered on the banks of the Tuy, in 1584, where the metal was very abundant and of 23 carats fineness, but these were also soon given up, on account of the extreme unhealthiness of the situation.

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[8] Such a dread of this fish is entertained by the Indians, and so reluctant are they to approach it when alive and active, that Humboldt found extreme difficulty in procuring a few of those eels to serve as the subjects of his experiments. For this express purpose, he stopped some days on his journey across the savannahs to the Apure, at the small town of Calabozo, in the vicinity of which they are very numerous. But though his landlord took the utmost pains to gratify him, he was constantly unsuccessful. Tired at last of these delays, he resolved to proceed himself to the principal spot where these electric eels are found. He was conducted to a pool of shallow water, stagnant and muddy, but of the heat of 79°, and surrounded by a rich vegetation of large Indian fig-trees, and sensitive plants, with odorous flowers. Here Humboldt and Bonpland witnessed a spectacle the most novel and extraordinary. About 30 horses and mules were soon collected from the adjacent savannahs, where they run wild, being valued at only 7s. a-head, when their owners happen to be known. These the Indians hemmed in on all sides, and drove into the marsh, then pressing to the edge of the water or climbing along the extended branches of the trees armed with long bamboos or harpoons, with loud cries they pushed the animals forwards, and prevented their retreat. The gymnoti, or electric eels, roused from their slumbers by the noise and tumult, mounted near the surface, and swimming like so many livid water serpents, briskly pursued the intruders, gliding under their bellies, and discharging through them the most violent and repeated shocks. The horses, convulsed and terrified, their manes erect, and their eyes staring with pain and anguish, made unavailing struggles to escape. In less than five minutes, two of them sunk and were drowned, and victory seemed to declare for the electric eels. But their activity now began to relax. Fatigued by such expense of nervous energy, they shot their electric discharges with less frequency and effect; the surviving horses gradually recovered from the shock, and became more composed and vigorous; until in a quarter of an hour, the gymnoti retired from the contest, and in such a state of languor and complete exhaustion, that they were easily dragged on shore by means of small harpoons fastened to cords.

The viceroyalty of New Granada has always been celebrated for the abundance of its gold; in Antioquia and other districts, no other money is known. This metal is generally obtained from the *lavaderos*, or washing places, established in the alluvious grounds. These lavaderos are situated to the W. of the central Cordillera, in the provinces of Antioquia and Choco, in the valley of the Cauca, and on the coast of the South sea, in the partido of Barbaceas. The province of Antioquia contains mines of gold in micaceous slate, at Buritoca, San Pedro, and near Aimas; but they are not wrought for want of hands. Gold is collected in great abundance on the alluvious grounds of Santa Rosa, the valle de Orsas, and the Valle des Trinidad. At Choco, the richest river in gold is the Rio Andageda; which, with the rivers of Quito and Zitara, forms near the village of Quibdo, the Rio Atrato, or the River of Darien. All the ground between the Andageda, the Rio de San Juan, the Rio de Jamana, and the Rio de San Augustin, is auriferous. The largest piece of gold ever found in Choco, weighed 25 lbs. A viceroy of New Granada brought with him to Europe, a lump of pure gold, worth £740 sterling. The number of slaves employed in gathering gold-dust in the district of Choco, amounted in 1778, to 3,054 persons; and in the valley of Cauca, 8,000 persons. The province of Choco might alone produce 20,000 marks of gold annually, from washing, if in peopling this region—the most fertile in New Granada—the government would turn its attention to introduce and improve agriculture. In 1801, when Humboldt was at Santa Fé de Bogota, the total produce of the gold-mines of the viceroyalty was estimated at 2,500,000 dollars, or £562,500 sterling; namely, 2,100,000 dollars, or £472,500 sterling, for the two mints of Santa Fé and Popayan; and 400,000 dollars, or £90,000 sterling, as the exportation of the ingots and wrought gold.[9] The total produce of the gold of this viceroyalty, coined, exported in ingots and wrought plate, together with the fraudulent exportation, may be estimated at 20,800 marks fine gold, or £683,760 sterling.

Platina, the rarest and most infusible of all metals, and in value next to gold, is solely produced in Choco and Barbacoas, to the W. of the free-stone mountains, which rise on the western banks of the Cauca. There are some mines of extremely rich silver in the Vega de Supia, 20 leagues distant from Carthago, to the N. of Quebraloma, between the Cerro de Tacon and the Cerro de Marmaton. These mines, which supply both gold and silver were only discovered of late. There are also mines of cinnabar, or sulphurated mercury, in three different places; namely, in the province of Antioquia, in the valley of Santa Rosa, to the east of the Cauca, in the mountain of Quindiu formerly mentioned; and lastly, in the province of Quito, between Azoque and Cuenca.

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[9] In addition to this, must be added the fraudulent exportation of the gold of Choco, which has very much increased, since the navigation of the Rio Atrato, or River of Darien, was declared free. Gold dust, and even ingots, instead of being conveyed by Cali or Mompox, to the mints of Santa Fé or Popayan, take the direct road to Carthagena and Porto Bello, whence they flow into the British colonies. The mouths of the Atrato and Sinu, serve as stations for smugglers. According to Humboldt's information from those who deal in gold dust, at Carthagena, Mompox, Puga, and Popayan, he thinks himself warranted in estimating the smuggled gold at 2,500 marks, or L.82,062, 10s. sterling, annually.

New Granada abounds in what are commonly called precious stones, as amethysts, *pantausas*, (a kind of precious stone of various colours, with grains of gold in the interior), diamonds, but of a very small size; with jacinths and beautiful garnets, turquoises, girasols, obsidian, and *mapulas*, another little-known precious stone. There are mines of beautiful emeralds, in the district of Muzo, of a very superior quality. Muzo is a town in the district of Tunza, inhabited by about 200 families, who are chiefly occupied in searching for emeralds. In 1764, the viceroy ordered these mines to be examined; and the veins which had disappeared, having been found, the labour was ordered to be resumed on account of the royal treasury. This singular and celebrated mine is in the mountain of Itoco, within three leagues of Muzo, and 50 British miles north of Santa Fé. This mine has for many years supplied the world with that precious stone; and the quantity must be great, when they are worked as a perpetual mine. They are generally in a gangart of pure white quartz, which enhances the extreme delicacy of the green colour; but there are examples of their being found in a fine grained schistus like touchstone. These emeralds are called emeralds of Peru, though it is doubtful if these stones were ever found in that viceroyalty; and those of New Granada, were even celebrated in 1740, when Ulloa was there. A district in the audience of Quito is called *Esmeraldas*, or the country of emeralds, from a current belief among the Spaniards, that there were mines of emeralds in this quarter, called the mines of Attacames and Manta, but that they are carefully concealed by the Indians.

Coal is a very rare production in the Cordilleras. There are, however, beds of coal in the valley of Bogota, near Tausa Canoas, and in the Cerro de Suba, places elevated 2,500 metres, or 8,201 feet above the level of the sea. Copper-mines of a superior quality are wrought in the vicinity of Nirgua, which besides supplying the planters with the best materials for their boilers, cylinders of mills, and other implements, furnished (in 1804) 171 quintals for exportation, and which quantity would have been much more considerable but for the war.

Salt is found in great abundance along the whole coast of Venezuela, and is of a beautiful whiteness; that from the salt-pits of Araya, or vale of Gipaquira, is equal to any in all America, consisting of a mixture of fossil and marine salt; but the Spaniards, with their accustomed indolence, almost entirely neglect the working of it; so that not a hundredth part of what might be produced, is derived from it. Mineral waters, both cold and hot, abound in the Caraccas, and are of various qualities, as ammoniacal, ferruginous, nitrous, and acidulous. Some of them approach to the heat of boiling water, especially in the valley of Arragoa.

CHAP. IV.—ORIGINAL INHABITANTS AND PRESENT POPULATION.

The ancient inhabitants of New Granada proper,—which forms but a small part of this extensive country, were the *Muyscas, Panchas, Natagaymes, Muzos, Colimas,* and other Indian tribes. Of these, the Muyscas were, next to the Peruvians, Mexicans, and Natches, the most civilized savages in all America. When the Spaniards first entered New Granada, in 1536, they found the Muyscas governed by two elective princes, one of whom, called the Zipa, resided at Bogota; while the Zacqui was established at Tunja. These princes were raised to their respective thrones by four hereditary electors, presenting as it were in miniature a type of the German empire. The Muyscas lived chiefly by agriculture. The idea of property was introduced among them, handed down by tradition, and observed with great care. They lived in towns which might be deemed considerable when compared with those in other parts of America; they were decently clothed; and their houses were much more commodious than those of the small tribes around them. The effects of this uncommon civilization were very visible. They had a regular form of government; and a jurisdiction was established which took cognizance of different crimes, and punished with rigour. There were other tribes in the vicinity, but much less advanced than the Muyscas in progressive refinement; yet still amongst these, the freedom and independence natural to the savage state was much abridged, and their caciques had assumed extensive authority. The sun and moon were the chief, if not the sole object of religious worship, among the people of Bogota. Their ecclesiastical system was more complete and regular, though less pure, than that of the Natches; they had altars, temples, priests, sacrifices, and that long train of ceremonies, which superstition always introduces, wherever she has fully established her reign; but their religious rites were bloody and inhuman. Human victims were offered to their deities; and many of their practices nearly resembled those of the ferocious worshippers of Huetzilopochtli. The Muysca language is the vernacular speech of the viceroyalty of New Granada.[9]

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[9] From an accurate and extensive comparison of the Muyscas of the upland of Bogota with the Japanese in their government, astronomical calendar, language, and traditions, it has now been considered on very probable grounds, even approaching to certainty, that the former were a Japanese colony. This conclusion is founded on the observations of Humboldt on the manners and traditions of the Muyscans, in his views of the Andes: on the discovery of the astronomical cycle of the Muyscas on a stone calendar, by the Canon Duquesne of Santa Fé de Bogota, a drawing of which is given by Humboldt, and which has evidently been imported from the N.E. of Asia; on the striking affinity of the numbers and letters of the Muyscas and Japanese, shown by Mr Paravey, in his memoir on the Muyscan and Japanese letters and numerical characters, published in 1826; and, finally, on the researches of M. de Siebold, a scientific Dutchman, into Japanese antiquities, in Japan itself, and at Nangasakkhi. Like the Japanese, the Muyscans wore cotton garments, and cultivated the cotton shrub. Like them they were initiated into tribes and reaped rich harvests of corn. Like them they had two sovereigns, the one the supreme Pontiff, like the Dairo of Japan; the other the secular monarch, corresponding to the Cubo, or Djogoun of the Japanese. Like them they possessed a hieroglyphical calendar of a complicated structure, cycles, or series of days, and of numbers combined two and two, and more especially a period of 60 years, which of itself indicates an Asiatic origin, and, finally, in the language called Chib-cha, spoken by these aborigines of Bogota, where the sound of the letter L is wanting, as is the case in the Japanese language. The word *Chibcha, Sib-cha* in Muyscayan signifies *The language of man,* corresponding to the Japanese *Siwa,* which also signifies the same. *Sa* in Japanese signifying *man.* The first pontifical sovereign of the Muyscans is the mysterious Bochica, whose name of *Sue,* or the Sun, and who

The *Guagiros* are a troublesome race of savages. They possess the fertile lands of Santa Martha, of the Rio Hacha, and Maracaibo. The Guagiros and other tribes on the Hacha are calculated at 30,000 in number. They are not only numerous and bold, but manage fire-arms with great dexterity; they weave fine webs of cotton, and fish for pearls in the Hacha. They are generally mounted on swift horses; and have considerable intercourse with the British and Dutch, who supply them with fire-arms and goods. They differ from the other Indians, in being a laborious and commercial tribe, and consequently wealthy, as appears from their dress, consisting of a vest, a close cloak, and pantaloons.

As to the present amount of the population of this viceroyalty, it is calculated by Humboldt at 1,800,000 souls; though he states that by an exact enumeration taken in 1778, the population of the audience of Santa Fé was 747,641 souls; and that of the audience of Quito, 531,799 souls: total 1,279,440 souls. It is difficult to conceive, how in the slow progress of Spanish colonial population, that of New Granada should have increased from 1,279,440 persons, in 1778, to 1,800,000, in 1808. The Indians, perhaps, were not included in that census. The population is at any rate extremely small, considering the extent of this government.

Many native tribes still exist in the interior, and along the coast of Spanish Guiana. Of these tribes, an interesting account was published by father Gumilla, in 1745, in two volumes quarto, entitled 'The Oroonoko Illustrated.' The picture drawn by this author, of the savages, and of savage life, is truly humiliating; and shows, in the most affecting manner, that man is a fallen and degraded being; that, destitute of the blessings of religion and civilization, the savage is not, as some assert, a good-natured, generous, simple, unoffending, but a cold, cruel, selfish, suspicious, and designing animal. They are actuated by all the vengeful passions, and constantly prepared for deeds of blood and carnage. Nature seems to have aided the dark spirit of the savages, by concocting, in these torrid regions, the most envenomed juices. Their poisoned darts and arrows are attended with inevitable death. But even when such weapons are not used, the genius of malignity, fertile in resources, still prevails. The Ottomacques are accustomed to dip the nail of their thumb in the *curare*, a strong poison, which is extracted from a species of the phyllanthus, and the slightest laceration thus inflicted is instant death. To enumerate these tribes would be tedious and uninteresting. Most of them are small, containing from

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laid dry the upland of Bogota, reminds us of the Chinese *Yao*, whose name applies to the rising sun, a king as celebrated in Japan as in China; and under whom the fatal deluge took place, and who also laid dry his empire by a cleft in the mountains, as did the Muyscayan Bochica, when he produced the sublime and beautiful fall of Tequendama. This traditional mythos of the drying up of the plain of Bogota, by producing the cleft is strikingly analogous to the traditions of the natives of the beautiful valley of Cashmere, which represent it as once a lake, and from which the waters were drained off by Kasp, by means of a cleft which he made in the mountains to the W. of the valley; and is also analogous to the Hindoo tradition of the celebrated Parasu Rama, who opened up a passage for the Brahmapootra, by striking a cleft in the mountains by a stroke of his scymitar. Another point of similarity to the Japanese traditions is, that Bochica chose for first king of the dried country, the wise and illustrious Huncahua, whilst the Japanese state, that Yao had for successor Prince Shun, equally celebrated for his virtues, as the first Zaque, or king of Bogota—Huncachua. The names have even the same pronunciation, *Chun* or *Hun*. All the above circumstances, and many more which want of room prevents from inserting, tend to corroborate the Japanese origin of the natives of the uplands of Bogota and New Granada; and that America as well as Europe and Africa received its aboriginal population from Asia, the cradle of the human race, in full agreement with the account of Moses in the inspired records.

500 to 2,000 warriors. But the Carribbs boasted of having once 12,000 warriors; and the Caberres, who formerly inhabited the banks of the Guaviari, were still more numerous, and still exceed the Carribbs in courage and power, and are famous for the use of a mortal poison.

On the banks of the Meta and Guaviari, are the *Ottomacques*, an ugly race, inclined to corpulency, and possessing the coarse broad features of the Tartars. During the greater part of the year, they live on the fish which they kill with their arrows on the surface of the water; but in the rainy season, when the plains are inundated by the rivers, they feed on a sort of fat unctuous earth, or a species of pipe clay tinged with a little oxide of iron. This clay is very carefully collected, and distinguished by the taste. It is then kneaded into balls of four or six inches in diameter, which they bake slightly before a slow fire. Whole stacks of such provisions are seen piled up in their huts. When about to be used, these clods are soaked in water, and each individual eats nearly a pound of it daily. The only addition which they occasionally make to this unnatural fare, consists of small fish, lizards, or fern roots. The quantity of clay which the Ottomacques consume, and the greediness with which it is devoured, would seem to prove, that, however incredible this may appear, it does more than merely distend their hungry stomachs, and that the powers of digestion can, to a certain degree, assimilate the finer portions of it into animal substance. The Ottomacques are accustomed to raise their dead after the expiration of a year, and to transport the bones to a general tomb.

The *Carribbs*, or *Charaibs*, as some authors write the name, and the Arrowacs, dwell in the E. of Guiana and on the coast, and have lived from time immemorial in a state of constant hostility to each other. The former are the same fierce people, and of the same origin with the natives of the Carribbee islands. Amongst them the miseries of savage life and manners seem to have attained their maximum. Many of the mothers destroy their female offspring, that they may not suffer the miseries incident to the savage state; and even regard the practice as an office of tender affection. The general method of effecting this is by cutting the navel string so short, as to occasion a fatal hemorrhage.

Except the Ottomacques, Caberres, and Carribbs, the other tribes generally flee when one or two fall in battle. They are all deceitful, and given to falsehood. In this view of the deceitfulness and falsehood of savages, all who have had much intercourse with them generally agree, especially Ulloa and Depons. According to the latter, the Indians are so proverbially false, that the testimony of six Indians, by the Spanish law, is regarded as only equivalent to that of one European. One great obstacle to Indian improvement is an almost insurmountable love of indolence, and the missionaries have done nothing to eradicate it. They imagine they have done enough in mechanically retaining the Indians in the appearance of civilization, and in obtaining from them the mere externals of Christianity; they neglect to inspire them with the love of industry, at the same time that they are instilling into them the love of God. Provided the Indian mumbles over his prayers at certain hours, he is free from every other work; drunkenness, lasciviousness, and sleep, fill up all his leisure, that is to say, his whole time. If he cultivates a few eatables around his cot, he passes for a very industrious personage. These villages of Indians thus converted by the Catalonian capuchins, in Guiana, are 27 in number, and are situated to the east of the Caroni. The number of converted

Indians in Guiana amounts to 34,000; of which 19,425 are under the missionaries, 6,575 are in San Thome, the capital, and the remaining 8,000 are in the other villages. The densest population is from 50 leagues from the sea to 130 leagues up the Oroonoko. So thinly is Guiana inhabited, that Humboldt sailed 300 leagues on the Oroonoko without seeing hut or inhabitant. As to the Indians of the Caraccas, as distinguished from Guiana, we have little remarkable to offer; and the varieties of savage life are so few, as to afford scarcely a topic for discourse.

The *Guayqueria Indians* are much more civilized than the other Indians of this province. They inhabit the island of Margarita and the environs of Cumana. Next to the Carribbs, they are the finest looking race of natives in this country, and enjoy great privileges; as from the earliest times of the conquest, they were always on good terms with the conquerors. "A long period," says Cochrane, "must elapse before the Indian population in Spanish America can be entirely identified with the civilization of the respective states established there. It should not be forgotten also, that there are in the interior numerous tribes of Indians who have never been conquered, or in any manner subdued, either by force or by persuasion, and who thus still exist in a state of independence. It must also be remembered, that of a not inconsiderable portion of South America,—for instance, Patagonia and Tierra del Fuego,—little or nothing is known beyond the mere outline of the coast. The Indian population, therefore, must of necessity form a very important feature in any political view in which South America can be regarded. The complete independence of a great number of the Indians,—the incipient civilization of many,—and the absorption of some into the political systems existing in the peninsula,—all give different bearings of the same question, which is not the less important, though it may become more complicated and more involved with other questions of general polity. It is the more requisite, perhaps, that this subject should not be lost sight of, as for many years it was asserted by successive authors, and generally believed in Europe (nay, it is probably still credited in many quarters), that the aboriginal Indians, both in Mexico and in the Spanish dominions in South America, were all destroyed; and that the vacuum thus left was filled up by negroes imported from Africa. The truth is, that a great number of the Indians, undoubtedly, were sacrificed to the inhuman cupidity of their conquerors, who tasked them beyond their strength, and who were thus the means of prematurely sending them to their graves; and also, that numerous cargoes of negroes were successively imported from Africa, to execute that labour which was beyond the strength, or inconsistent with the constitutional habits, of the Indians. But, as I have already stated, a considerable Indian population still remained, the amount of which has since increased; and from the intermixture in various quarters of the Indian and negro population, a new race has subsequently sprung, denominated Sambos, or Zambos; who, as if to punish the Spaniards for the inhumanity of their predecessors towards both the Indians and the negroes, inherit all the vices of their ancestors, on both sides, with scarcely any of their virtues, and thus become a pest to the country. The Indians are likewise of importance from their numbers, as compared with the amount of the whole population of South America, *of which they form, probably, one-third*; whilst the greater part of the rest of the people, of all shades of colour between white, copper-colour, and black, are the offspring of the various intermarriages of different races. Questions thus necessarily arise, which can scarcely be justly appreciated in Europe, from the want of any corresponding data upon which to found an opinion, or of any feelings similar to those which frequently actuate, with some bitterness of hostility towards each other, the various races, castes, half-castes, &c. of such a mixed population."

The character of the Spanish Creoles is much the same here as in other parts of Spanish America. They are generally proud, lazy, of expensive habits, and extremely superstitious. They are, however, ingenious; fond of learning the French and English languages; and, being partially acquainted with history and geography, can judge of the future from the past, and know something of the situation and commercial intercourse of the different countries on the globe. In general, marriages are very early, the girls being married at 13, and the boys at 15. If not destined for the church, an unmarried youth of 20 is regarded as an old bachelor. These early marriages were, however, prohibited by an act of his Catholic majesty, passed in 1803, by which young men under 25, and young women under 23, could not marry without the express concurrence of their respective parents; it being formerly the custom for boys and girls to take each other for husband and wife, by a mere public declaration, which was deemed sufficient, whether the parent consented or not. It is probable, that in the present disastrous and undecided struggle, more than one-third of the population has perished; but the population of Colombia, as reported to the national congress in 1827, amounted to 2,800,000 souls, of whom 103,892 were slaves. There were, besides, in the forests and mountains, 203,835 independent Indians. In Hall's account of Colombia, published in 1825, the population of Caraccas is stated at 825,000, and that of New Granada at 2,430,000—total, 3,255,000; yet he candidly confesses his statement to be that of 1810, and that more than half of the population of the Caraccas must have perished in the struggle for independence; whilst he thinks that of New Granada must have remained stationary for the last 12 years, or from 1810 to 1822.

CHAP. V.—GOVERNMENT—REVENUE.

Old Regime.] "Spanish America," says Cochrane, "was politically divided into the vice-royalties of New Spain, or Mexico, Santa Fé de Bogota, or New Grenada, Peru, Buenos Ayres, or the provinces of Rio de la Plata, and the captain-generalships of Guatemala, Venezuela, and Chili. The viceroys and captains-general of these territories were appointed by the king of Spain, and acted independently of each other. The viceroyalties and captain-generalships were subdivided into *intendencias* and provinces, over which presided *intendentes*, *gobernadores*, or *corregidores*, who were also appointed by the king, but who were dependent upon the viceroys or captains-general. These provinces were likewise subdivided into departments, in which resided the delegates of the chiefs of the provinces, and the judges, called *alcaldes*, who were nominated by the *cabildos*, or municipalities, in order to maintain the civil power. The military commands were generally vested in the viceroys and captains-general; but, sometimes they were separately held by officers called *commandantes*. The *cabildos*, or municipal corporations, had the sub-government of the towns and surrounding districts." The government of New Granada, under the old regime, was similar to that of the other viceroyalties,—being divided into two royal audiences, and two governments, but both subject to the viceroy who resided at Santa Fé. The royal audience of Santa Fé comprehended the northern provinces, as Carthagena, Panama, Santa Martha, and Porto Bello, with the district of the river Hacha; in the interior were Antioquia, Choco, Veragua, Mariqueta, Giron, Neiva, and the Llanos. Besides the royal audience, there was also a tribunal of accounts, a treasury, and a royal mint. The royal audience of *Quito* comprehended all the southern parts of this viceroyalty, as Quito, Popayan, Jaen de Bracamoros, Cuenca, Esmeraldas, Guayaquil, Macas, Loja, Riobamba, Pastos, and was similar in every respect to that of Santa Fé. There was also, as at Santa Fé, a royal mint at Popayan. The revenues of this viceroyalty were left in obscurity; according to Humboldt, the clear revenue remitted to Madrid amounts to 500,000 dollars, or £112,5000; but he gives no particulars, any more than Estalla.

The whole of the Caraccas was under a governor-general, who represented his Catholic majesty. All the military department was completely under his control; though, on important occasions, he consulted a junta of war, or military council, composed of the chief officers. The provinces of *Maracaibo, Venezuela, Varinas, Cumana, Spanish Guiana, and the island of Margarita, had each delegated governors,* appointed for five years, with a lawyer as an assessor. Though president of the audience, the governor-general had neither vote nor voice. As the whole system was subjected to the council of the Indies, instances of despotism were extremely rare; and equity was inculcated, if not secured, by the governor being prohibited to marry, to purchase property, to trade, or to form any connexions in the colony. His salary was 9,000 dollars, or upwards of £2,000 sterling annually; and he was generally appointed for 7 years. At the expiration of his government—as was usual in all the governments of Spanish America—a lawyer was appointed to receive from his hands an account of his administration; and notice was publicly given on the spot, that at such a time and place, a court of inquiry would be held, where all persons whatever, particularly Indians, who might consider themselves as having been aggrieved by their late viceroy or governor, should be heard, and their complaints redressed.

Constitution.] The new constitution of Colombia contains 167 articles, with numerous subdivisions. It was signed by the members of congress and the executive, on the 25th of April, 1829. Its principal features we subjoin. With the exception of the article in respect to religion, it is as republican and liberal as the constitution of the United States of North America. The Catholic religion is declared to be the religion of the state; and no other form of public worship will be tolerated.

All Colombians are equal before the law, whatever may be their fortune or pursuits. No offices, honours, or distinctions, shall be hereditary. All persons have an equal right to elect and be elected to office, provided they are citizens, and possess the requisite qualifications. After 1840, no person can enjoy the rights of citizenship who is unable to read and write. In the case of habitual drunkards, the rights of citizenship are suspended.

Each parish shall have a parochial meeting once in four years, for the choice of electors. The voters must be inhabitants of the parish, in the exercise of the rights of citizenship. The electors must possess real estate to the value of 1,500 dollars,—or an annual income from real estate to the value of 200 dollars,—or an income of 300 dollars from some useful business or profession,—or a salary of 400 dollars. It is the business of the electors, assembled in their respective provinces, to vote for president and vice-president, and also to choose senators and representatives to congress for the provinces to which they belong. The electoral assemblies are not permitted to give instructions to the senators and representatives.

Congress is to meet on the 2d of February annually, and continue in session 90 days, with power to prolong their sittings 30 days more if the public interest requires it. The powers of congress are nearly the same with those granted by the constitution to the congress of the United States. It is their exclusive business to regulate the public expenditure,—establish imposts and national contributions,—contract debts on the credit of the nation,—determine each year the footing of the land and naval forces for the following year,—declare offensive war, &c. The president has precisely the same power over bills which have passed the two houses of congress, as the president of the United States; except that in the former case, the president is allowed to retain bills for consideration 15 days instead of 10.

Senators must be 40 years old, and possess real estate to the value of 8,000 dollars,—or an income of 1,000 dollars per annum from real estate,—or 1,500 dollars from some useful business or profession. They are elected for the term of 8 years; but the period of their retirement will be so arranged, that one quarter of the whole number will cease their functions once in two years, and new members be elected to succeed them. Each province is entitled to one senator.

The representatives are chosen in the ratio of one to every 40,000 inhabitants, and another for a remainder amounting to 20,000. They must possess real estate to the value of 4,000 dollars,—or an annual income of 500 dollars from real estate,—or 800 dollars from some useful employment or profession. They hold their office four years—one-half retiring every two years—and must be 30 years old. It is made their peculiar prerogative to prefer charges, either of their own accord, or at the instance of any citizen, against the president and vice-president in the cases of high treason specified in Art. 87, viz. entering into any combination against the liberties or independence of Colombia,—forming any machinations to destroy the constitution of the republic, or the form of government established in it, —or refusing to sanction laws or decrees approved by congress, returned by the executive, and again approved by a vote of two-thirds of the members in both houses. It is also the business of the house of representatives to prefer charges against the ministers and councillors of state, the procurador-general, and the magistrates of the supreme court, for any misconduct in the discharge of their respective functions.

In case a plurality of the votes for president in the electoral assemblies is not given for any one individual, the election shall be made by congress from the three candidates who have received the highest number of votes. The president and vice-president must be Colombians by birth, 40 years of age, and must have resided in the republic for at least six years before the election. They are elected for the term of eight years, and are ineligible to the same office for the next succeeding period. The president has authority to appoint and remove the ministers and councillors of state,—and to appoint, with the approbation of the senate, the magistrates of the supreme court, the archbishops and bishops, and the generals of the army and navy. He cannot command in person the land and naval forces, without the express consent of congress: in which case the vice-president will succeed to the executive power. He cannot deprive any Colombian of his liberty, or inflict any punishment upon him; he cannot stay the course of judicial proceedings, prevent the elections provided for by the constitution, or dissolve or suspend the chambers; he cannot leave the country till one year after he has ceased to exercise the executive power, nor can he exercise this power when absent from the capital to any other part of the republic. With the exception of the cases of treason above-mentioned, the president is irresponsible.

The military power is declared subordinate to the civil; and its chiefs subject to the laws and ordinances of the republic.

The superior political government of each department resides in a prefect, appointed by the president, of whom he is the immediate agent, and with whom he will hold communication through the minister of the interior. The government of each province will be vested in a governor, appointed by the political prefect of the department. The prefects and governors hold their office for the term of 4 years. The civil and military authority of the departments and provinces cannot be vested in the same person, under any pretext whatever. The cantons will be governed by civil officers subordinate to the provincial governors.

For the better government of the people, there will be established district chambers, composed of deputies from the provinces embraced in the respective districts, who shall be chosen by the electors, and shall have power to deliberate and decide on all the municipal and local affairs of the departments, and to carry up to the general government whatever concerns the interests of the republic at large.

Within 12 hours after the arrest of any Colombian, it is made the duty of the judge to send him a written order, in which the reasons of his arrest are specified; and a copy of the same shall be given him if he requests it. No Colombian shall be compelled to testify against himself, his wife, his progenitors, descendants, brothers or sisters. No Colombian shall be tried or punished by virtue of an *ex post facto* law. No Colombian can be deprived of his property, nor can it be applied to any public use, without his consent, unless the general interest, legally ascertained, requires it, in which case a full equivalent shall be paid. Punishment by the confiscation of goods is abolished. All Colombians have a right to publish their thoughts and opinions by means of the press, without the necessity of previous censorship, but subject to the responsibility of the law. The house of a Colombian is an inviolable asylum; and cannot be invaded, except in necessary cases and under the conditions pointed out by the law. Epistolary correspondence is also inviolable. Letters cannot be intercepted or opened at any time, except by competent authority, in the cases and within the limits specified by the law. The public debt is guaranteed.

The power which the congress may have to reform the constitution shall not extend to the form of government, which shall always be republican, popular, representative, alternative, and responsible.

Revenue.] The first great branch of revenue in Colombia is the custom. By official returns, published in the *Colombiano*, of Caraccas, it appears that the receipts of the custom-houses of La Guayra and Puerto Cabello were as follow. viz.:—

In the year ending June, 1824.

	Dollars.
Import Duties,	618,721
Export ditto,	148,975
Other Duties,	49,132
	816,828

In the year ending June, 1825.

Import Duties,	650,367
Export ditto,	175,683
The return of the other Duties assumed as in 1824,	49,132
	875,182

The Carthagena custom-house was yielding, in 1826, 100,000 dollars per month; and, considering with how much larger an extent of country that port communicates than La Guayra and Puerto Caballo, the receipts at its custom-house might safely be taken at 1,000,000 dollars per annum. The port of Guayaquil yielded at least 70,000 dollars per month, making, per annum, 840,000 dollars. The custom-houses of Santa Martha, Coro, Barcelona, Maracaibo, Cumana, Angostura, Panama, Rio Hacha, and Porto Bello, were estimated, in the whole, at 900,000 dollars per annum. This forms a revenue of customs of 3,615,000 dollars.

There is next a duty of alcabala, or excise, levied in each town of the republics on all articles consumed. The like duty in Mexico is estimated to produce 1,868,223 dollars. The population of Colombia being, numerically, nearly half that of Mexico, this branch of revenue may be fairly estimated at 934,000 dollars.

The tobacco monopoly is a very important branch of revenue. The amount of its produce depends entirely on the extent to which the cultivation is carried: and as the country is now rapidly resuming its agricultural labours, this monopoly must soon come to be largely productive. Depons says, respecting this source of revenue, "I doubt whether in fiscal history there is to be found an impost which has made such rapid progress as the exclusive sale of tobacco in the provinces of Caraccas. In the 8 last months of 1779—the year of its establishment—it yielded but 77,139 dollars nett,

In 1781	154,234
In 1782	300,319
In 1788	368,922
In 1791	405,108
In 1793	*526,353*
In 1802	*724,430.*"

This, it will be observed, was the produce of the department of Venezuela alone. It appears not unreasonable, then, to estimate this branch of duty, throughout the republic, as capable of yielding 1,500,000 dollars annually.

There are some other branches of revenue of minor importance. The salt-mines produce to the government about 300,000 dollars per annum. Those of Zipaquira alone yield 14,000 dollars monthly. The mint yielded a profit, in 1825, including the duty on gold coined, of 200,000 dollars. This latter source of revenue must increase rapidly. The government mines of Mariquita are now being worked by an English company, and are now yielding ore. From this the government derives not merely the duty on the silver, but a fixed per centage as rent.

Putting these several branches of revenue together, we may estimate the total income of Colombia at 10,000,000 of dollars. This estimate derives considerable confirmation from Humboldt, who states that (with all the disadvantages of the exclusive system of Spain) the revenue of New Grenada amounted to 3,800,000 dollars, and that of Venezuela to 1,890,000 ditto. It is too, in the nature of things, an increasing revenue—a remark that must apply, with more or less force, to the revenue of the whole of South America. The following is a table of the revenue, receipts, and expenditure, of the republic of Colombia for the year 1826:

			Dollars.	
RECEIPTS.				
Custom-houses			5,688,019	2
Mint			142,151	5
Tobacco monopoly			800,518	6
Post-office			111,659	4
Receipts at the different Treasuries			3,795,488	7
Ditto at the Treasuries of the Magdalena			1,618,534	4
Total receipts			12,156,372	3
EXPENDITURE—CUSTOM-HOUSES.				
Salaries, &c.			260,168	
Tobacco Monopoly.				
Salaries to officers, and payments to growers			613,349	
Payments at the different Treasuries.				
Salaries—political and financial	474,555			
Diplomatic list	84,746	5		
Army	4,246,212	7		
Navy	141,205	2		
Mint	32,000			
Ordnance	22,115			
Roads	38,042	6		
Sundry	1,557,883			
			6,596,760	7
Payments at the Treasuries of the Magdalena			1,455,790	6
Total expenditure			8,926,068	5
Receipts			12,156,372	3
Expenditure			8,926,068	5
Surplus			3,230,303	6

This surplus, however, will be farther reduced by the interest on public loans, which is considerable, but the precise amount of which we have no means of ascertaining.

Military Force.] "The soldiery," says Cochrane, "consists of infantry, hussars, lancers, and artillery; but, except the president's guard, who have a dress uniform, they are indifferently and variously equipped, with seldom more than a coat, and blue pantaloons, without boots or shoes. The lancers are armed with lances only, the hussars have carbines and sabres. They have but little discipline generally, though individually they are good horsemen. They catch their horses after they have been turned out, by driving them into the square of San Francisco in a body, and mount, without dressing, or grooming them in any way. Dismounted cavalry do duty at the palace, and change guard every morning, with a band preceding. The officers have uniforms, sometimes red, sometimes blue, a round or cocked hat, and their jackets embroidered, as chance or fancy may dictate, with but little attention to general uniform. The soldiers' rations are fixed by law at a pound of meat, a pound of bread, and four ounces of rice per man per diem. The infantry is divided into battalions; 25 of the line, and 5 of light troops, all in 8 companies. In each battalion of the line is 1 company of light infantry, 1 of grenadiers, and 6 of fusileers; each company consisting of 100 soldiers, and 4 officers. The cavalry is composed of 24 squadrons, each of which consists of 3 companies, with 50 men and 3 officers, for old tactics; and 2 companies, of 80 men and 4 officers, for modern discipline. The six squadrons forming the president's guard compose a brigade; to these are added 10 battalions of foot, the whole of picked and distinguished men. The artillery is not in good discipline. In 1821, the army consisted of 22,975 men, but is now increased to 32,476 men; namely, 25,750 infantry, 4,296 cavalry, and 2,520 artillery, exclusive of 400 artizans employed in the workshops. The staff of each battalion consists of a commandant, a major, 2 adjutants, an ensign, a surgeon, a chaplain, an armourer, drum-major, and 7 pioneers. The staff of the cavalry is nearly similar. There is a city militia, which is tolerably good; but that composed of the Indians beggars all description; one has a hat with a feather in it, another a pair of blue pantaloons, or an old military coat; the men of all sizes, ages, and colours, and can only be compared to Falstaff's ragged regiment, or the army of Bombastes Furioso. The garrisons are strong, but badly defended. Powder-mills are employed near Bogota and Quito, but the produce is trifling and inefficient. A supply is therefore procured from England, whose merchandise and materials, merchants and soldiers, customs and manners, are most approved in Colombia."

Navy.] The navy consists of 19 ships of war, namely, 6 corvettes, 7 brigs, and 6 *goletas* (schooners); these are manned principally by foreigners. Some money out of the funds produced by suppressed convents, is destined for naval education. The navy expenditure amounts to £1,000,000 sterling,—a large sum certainly; but it requires much to form a navy which will hereafter cost less to support.

CHAP. VI.—RELIGION—STATE OF EDUCATION—MANUFACTURES AND COMMERCE.

THE Roman Catholic religion is the established religion of Colombia, and has, perhaps, a more powerful hold of the people than even in Old Spain.[1] The Virgin, if not the sole object of religious adoration, is at least more frequently and more devoutly worshipped than her Creator; a hundred prayers are directed to her for one that is addressed to God the Father and the Son. The clergy, however, are said to be, with few exceptions, faithful and favourable to the actual state of things. The laws have been brought to bear with all their rigour on every ecclesiastic that forgot in the pulpit, or in writing, the respect and allegiance due to the institutions of the country.[2] The annual revenue of the church depends on the abundance of the harvests and price of the articles on which the tithes are levied. The fourth, belonging to the archbishop of Caraccas, amounted annually, at an average, to 60,000 dollars, or £13,500 sterling, previous to 1802. A third of this fourth, however, belongs to the government. The secular clergy now consists of two bishops, 94 prebendaries 892 curates, and many others of various grades, amounting in all to 1,694 persons. Of the monastic orders there are 51 monasteries, 945 monks, and 432 novices. Of nuns there are 750, with 1,436 novices, who occupy 33 convents. The pay of the missionaries is from 150 to 200 dollars annually. Void, in a great measure, of mental occupations, these missionaries are often grossly sensual and indolent. An old missionary, whom Humboldt visited, frankly acknowledged, that of all the pleasures of life, not even excepting sleep, none was to be compared to the pleasure of eating good beef! As stated before, these missionaries have done comparatively little service to the Indians; they have learned them the mechanical part of religion, without cultivating their minds, or instilling into them habits of industry, by which they might be made useful both to the colonists and the community at large.

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[1] In Spanish America, previous to the revolution, there were three tribunals of the inquisition, namely, Mexico, Lima, and Carthagena. The expurgatory index of the inquisition, published in 1790, contained 5,420 authors, and many of the noblest productions of human genius.

[2] It is remarked by Hall, in his present state of Colombia, that toleration, so far as respects the creed of foreigners, was indeed established by the law of the 22d of August, 1821; but it is not clear that it includes the liberty of openly professing and celebrating the rites of their respective forms of worship. In such a case the law would require interpretation, and in what respect would the *interpretation* be made? So far as respects the opinions of those who compose the government, and generally of all the enlightened men throughout the country, the interpretation would very probably be favourable; but the interference of the clergy in such a case must be reckoned upon; and the government has hitherto manifested a disposition to humour the prejudices of this body, from a knowledge of clerical influence. The clergy, on the other hand, are no strangers to the contempt in which their opinions are held by the enlightened part of the community; but as long as this inward feeling is accompanied by no overt act of secession, they console themselves with the influence they possess over the ignorant majority, and the knowledge that this influence must insure them the consideration of the government. The toleration of a rival church would, however, prove a very different affair. Here not only is division of opinion, but a threatened division of pelf and power; and the resistance to such innovation would be proportioned to the interests jeoparded. Travellers have noticed the apparent liberality of the South American clergy towards strangers of a different creed; but their bigotry in such cases is only sleeping, because unprovoked. A solitary Protestant traveller may be an object of

Public education has of late attracted much attention. The universities, colleges, academies, and schools, which had been suppressed or destroyed by the long revolutionary war, have been re-established, in whole or in part, and primary schools, for girls as well as boys, have been founded, as far as possible, in every parish. There are now 52 schools on the Lancasterian system, and 434 on the old plan which is to be gradually superseded by the new and more perfect one. At these schools are taught 19,700 children. For every province, there is to be established a college; and for their support the property of all monasteries which have not at least eight monks, is to be confiscated to the state. The funds thus procured will, it is calculated, amount to 40,000 dollars a year. There are now in the republic 3 universities and 20 colleges; and for four others of the latter the funds are already provided.

Manufactures.] The manufactures of Tunja, Toca, Socorro, Velez, and other towns and villages towards the plains, consist of cotton-cloths, carpets, counterpanes, and coarse woollens of different descriptions.—Agriculture and commerce, which had been ruined by the war, have revived and made considerable progress since the establishment of the constitution in 1821; and mining is said to be becoming profitable. The mechanical arts have improved in some degree, by the introduction of foreign tools and artizans.[3]

Commerce.] A nation like the Spaniards, who so blindly estimated the value of their colonial possessions, merely by the quantities of gold and silver which they furnished, could not be expected to derive much advantage from the more substantial riches of the earth, or be aware of the resources, almost boundless, which a well-regulated commerce might disclose in a country, which, in fertility, in climate, in the abundance and

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curiosity, but not of dread or suspicion. Not so when individuals of the same persuasion appear in hundreds or thousands. The abuse of heretics has long been the favourite theme in the pulpits of Caraccas; and the city of Caraccas itself has been repeatedly threatened with a second earthquake in judgment of such abominations. The ecclesiastical regulations, which at present interdict marriages between Roman Catholics and heretics, are of themselves a barrier against the amalgamation of foreigners with the existing population, and exemplify the impossibility of combining religious intolerance with a liberal form of civil government.

[3] We were astonished to perceive how small an emigration hither has taken place from Europe and the United States. In 5 years, only 193 persons have been naturalized.

variety of its vegetable productions, is unparalleled in any quarter of the globe. So little were they capable of appreciating the value of their possessions here, that for upwards of a century after its first discovery it furnished to the parent-state no article of commercial produce; one vessel alone annually arrived from Spain, not to receive a valuable cargo, but (strange to relate) to convey the necessaries of life to a country capable of maintaining the whole of Europe. The trade with Europe, however, must of necessity be limited—1st, by the heavy expense of freight in the long voyage—and, 2dly, by the still more tedious land-carriage into the interior.[4]

CHAP. VII.—CHIEF CITIES.

Bogota.] The capital city of the old viceroyalty of New Granada, though not the most populous, is *Santa Fé de Bogota*, founded in the valley of Bogota by Don Gonzalo Ximenes de Quesada, in 1538. Though situated in 4° 10′ N. lat., and W. long. 73° 50′, the climate is rather cold from its elevated situation.[5] It is a large city, with broad and well-paved streets. "When seen from the mountains at the back, Bogota has a very pretty effect. The streets, built at right angles, present an appearance of great regularity, and have a stream of water constantly flowing down the middle; there are also several handsome public fountains. Great as is the extent of the city, the churches and convents cover nearly one-half of the ground. Many of the convents are in part, and others wholly, deserted since the revolution. The ground that some of them cover is immense." There are 9 monasteries and 3 nunneries; those of the Dominicans and of San Juan de Dios are the best endowed. Four-sixths of the houses in the city are said to belong to them. "The architects of Santa Fé," says M. Mollien, "have an excuse to justify the deformity of their edifices in the nature of the soil, which, being so frequently convulsed by earthquakes, compels them to sacrifice elegance and majesty to solidity. Thus it is that the houses are so low, although the walls are prodigiously thick. The public buildings are also obliged to have enormous foundations, and the shafts of the columns of the churches are less in proportion to the weight they have to sustain, than to the shocks which they are required to resist. The architecture of some, however, is in a purer style. The cathedral, in particular, erected in 1814, is remarkable for the simplicity of its interior, redeeming, in some degree, the bad taste to which its facade is indebted for an accumulation of lines produced without harmony, and intersecting each other without the least symmetry. The other churches of Bogota, to the number of 26, are, on the contrary, resplendent with gold; no temple of the incas was ever so dazzling. But, although the magnificence of the cathedral itself is not so great, the treasures it possesses are more valuable. One statue of the virgin alone, out of the many which adorn the altars is ornamented with 1,358 diamonds, 1,295 emeralds, 59 amethysts, one topaz, one hyacinth, 372 pearls, and its pedestal is enriched with 609 amethysts: the artist was paid 4,000 piastres for his labours." All the houses are low, in consequence of the apprehension of earthquakes: they are built of sun-dried brick, white-washed, and covered with tiles. " As to the interior," says M. Mollien, " the houses are not better arranged than ours were at the time of the discovery of America. Windows, very small, and always barricadoed by large wooden bars, are seen by the side of others of an immense size; the beams are rarely concealed by a ceiling; the walls have enormous projections; the doors are of all heights; the use of locks is scarcely known: at least, those manufactured in the country afford but little security. The use of glazed windows is but of recent introduction; a less barbarous taste is, however, observable in the construction of many modern habitations, and several improvements begin to appear. Light and convenient balconies have superseded the enormous heavy galleries; the ceiling is no longer disagreeably intersected by beams; the windows are without barricadoes, the street-doors better painted: a general neatness is, indeed, being introduced through all classes. In general, two gates are to be passed before arriving in the court-yard. The entry which separates it from the street is but too often a receptacle for the uncleanness of the passengers. A gallery generally runs round the court, if the house consists only of a ground floor; but if of two stories, a covered terrace. The staircase is generally of stone, and of very rude construction. On the wall of the first square is generally painted a giant, carrying in one hand a child, and in the other a ball; this is St Christopher, the household god of the country. Round the inner gallery is a long suite of rooms, which only receive day-light through the door. Every house has at least one saloon and an eating-room; for it is considered unpolite to receive friends, or to entertain them, in a sleeping-room. The kitchen is always of an immense size, less on account of the quantity of provisions cooked, than the number of useless servants assembled there: there is no chimney, as stoves only are used. No houses are seen without carpets: the ancient straw mats of the Indians are no longer used by fashionable people, but are superseded by carpets of European manufacture. Both of these are designed, if there be no fire, to warm the apartments, and to conceal the inequalities of the floor, where, unfortunately, the negligence of the servants permits the most loathsome insects to swarm in immense numbers. Some persons cover the walls of their chambers with dyed paper; and numbers have garlands of flowers and genii drawn upon it, in a style alike indicative of the bad taste of the painter and his employer. The furniture is simple, and usually consists of nothing more than two sofas covered with cotton, two small tables, a few leathern chairs, after the fashion of the 15th century, a looking-glass, and three lamps suspended from the ceiling. The bed is tolerably well ornamented, but feathers are never used; it is formed of two wool mattrasses. With some slight difference, all the houses resemble each other; nothing serves to distinguish those of the ministers, and it would be difficult to recognise the president's, were it not for the guard at the entrance. The shops are crowded together, dirty, and dark; the only admission for day-light is by the door. These, however, are places of resort for the idle. Seated upon his counter, smoking incessantly, and giving laconic answers to his customers, the Colombian merchant in many respects resembles those of Smyrna or Aleppo. Bogota cannot boast of ten merchants who can command 100,000 piastres, nor of five individuals living upon a revenue of that amount. The most common incomes are from 5 to 10,000 piastres. Almost every inhabitant (not in the employ of government, in the church, or in the army) is a shopkeeper." The population is estimated at upwards of 30,000 souls.

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[4] Many parts of the roads are entirely desert; and the traveller has to carry a large store of provisions, lest, by a sudden swelling of the rivers, he should be prevented from either proceeding or returning. It will be at once perceived that the transport of goods, if they are at all bulky, is scarcely practicable in such a country, and that its commerce must therefore be confined to such articles as, containing a great value in little bulk, can easily afford the heavy expenses of such a land carriage. Gold and silver are accordingly articles of export to the lower country on the sea-coast, whence is derived in exchange a supply of its produce. It appears that the government are making exertions to facilitate land intercourse, and introduce the steam-boat generally into the waters of the republic. Their efforts have, as yet, met with little success. Perseverance and time will accomplish all. We have but very imperfect accounts of the commerce of Quito, Popayan, and these sequestered regions; and it may be doubted whether British manufactures have yet penetrated to this distant market. But if the country were settled under a free government, the enterprise and industry of the people would soon be called forth,—the roads would be improved,—more practicable communications would be established with the surrounding districts, and with the sea-coast,—commerce and manufactures would advance,—and the whole country would rapidly improve by freer intercourse with the world at large, from which it is at present separated by the physical obstacles of its singular position.

[5] Its elevation above the level of the sea is stated by Cochrane at 8,615 feet. He says, "On account of this great elevation, although the situation is so near the equator, the atmosphere is so rarified, that it becomes for some time exceedingly oppressive to strangers, who are obliged, whilst walking, to stop frequently to recover their breath, and are unable to proceed, until respiration becomes more free—a feeling which I experienced myself in a great degree. But this is not the least serious inconvenience of the climate; for travellers, arriving here by the Magdalena, (a more general route than that of Caraccas,) experience, from the sudden change of the level of Honda to the elevation of Bogota, such effects from the rarity of the air, as to produce oppression of the chest, violent affections of the bowels, or intermittent fever."

"The costume of the people," says Cochrane, "is remarkable, particularly that of the females. There is no distinction between rich and poor in the style of walking dress. The mantilla, black or light blue, made *à la mode Espagnole*, is worn; a piece of blue cloth envelopes the head, and frequently conceals the whole of the features, except the eyes; this reaches to the waist, and the whole is surmounted with a broad-brimmed beaver hat. This is generally allowed to be a preposterous and unbecoming dress; but as yet no fashionable lady has had the courage to set a new style for the example of her countrywomen. They are sedulously careful to deck their feet in the most becoming manner, and with studied coquetry, as they are in general well formed, and extremely small. Their step is very peculiar, all from hip to ancle without bending the knee; and a sidling motion of the body. How far this adds to the grace of appearance and ease of deportment, I will leave to abler judges to decide. The lower classes are generally barefooted, except the peasantry of the plains, who wear *alpargutes*, a kind of Roman sandal, made of the fibres of a tree. They wear likewise a full, large mantle, called *roana*, or *roquilla*, made of the cloth of the country; the head passes through a hole in the centre, and the roquilla falls loosely and gracefully over the shoulders, and completely covers the body and conceals the arms. The *tout ensemble* is elegant, as it drops in easy and becoming folds. Some of the females assume a very peculiar garb; a petticoat of Spanish brown stuff, with a mantilla of white kerseymere, a black beaver hat, and round the waist a broad, black, leathern girdle, one end of which hangs down from the hip nearly to the ancle. They are called *beates*, and attire themselves in this manner for many reasons, such as the commands of a confessor, the sickness of a husband, father, or any other relative; but by many it is worn merely from coquetry, and the desire of attracting attention." "The general routine of the day at Bogota," says the same author, "commences with mass, which is attended by females and old men,—the men in general not giving themselves much trouble on this score. The women keep the house during the day, attending to domestic concerns, or lounging on their sofas. About half-past five they attend the Alameda, whence they return to receive visits until nine or ten o'clock, at which time they retire to bed. The usual amusements for the ladies are, *tertullias*, balls, masquerades, and the numerous processions of the saint and feast days, which latter tend not a little to render the people idle, their number, including Sundays, amounting to 180; but the congress have it under consideration to reduce them as nearly as possible to the number of festivals celebrated in Protestant countries. In addition to these diversions, the gentlemen amuse themselves with bull and cock-fighting, in which much money is lost and won; games of chance are also played, and public dinners occasionally given; but in consequence of the small fortunes of the majority of the people, these are very rare."

Caraccas.] The city of Caraccas is situated in N. lat. 10° 30′ 50″ 230 leagues N.E. of Santa Fé de Bogota, at the foot of the Silla mountains. It is watered by four small rivers; and both its site, vicinity, clime, and soil, are so delightful and fertile, that a Spanish author has compared them with those of the terrestrial paradise, and found, in the Anauco, and its three rival streams, the four rivers which watered the garden of Eden. "In travelling from La Guayra to Caraccas," says a very recent writer, "you come to a part of the road nearly level; as you trace its windings, bursts upon you at once the city of Caraccas, unexpected, magnificent, and inviting beyond the fanciful creations of romance. It is situated in a valley, of which the expanse astonishes an eye not conversant with the interminable ravines of that country. This valley is bounded on the S. by a line of mountains incomparably tamer in magnitude and aspect than that of the coast, and stretches eastward to the vale of the Tuy. You have the immense extent of the city distinctly exposed to your eye, and beyond you see the Guayra flowing in modest pride (I describe it in the dry period of the year), and the rich green of the maize raised on its banks for provender to animals, affords the liveliest contrast to surrounding dryness and barrenness. The city, which protrudes its buildings northward to the foot of the sierra, withdraws itself considerably from the river on its south. It is in the form of a great square, every street cutting the transverse street at right angles. There are about 15 streets thus formed from N. to S., and as many from E. to W. The streets are wide, and each house, enclosing a court with two floors of corridors, occupies an immense extent; no smoke or vapour from hearths or clouds, from artificial or natural causes, obstructs your view; and you riot in the contemplation of so splendid a monument of human industry and skill—so rich a scene of human enjoyment and happiness. Alas! it is all illusion. On entering this city of grandeur and wealth, you are startled with the apprehension that you are in a city besieged by an enemy, or deserted from fear of some great convulsion of nature.

"Its tameness is shocking to me."

Temple-bar or Charing-cross, at six o'clock on a Sunday morning in summer is more crowded and bustling than the busiest corner of Caraccas at the busiest hour of the busiest day in the year. On looking around, you find that more than one-half of the houses in every street are uninhabited; many are in ruins,[5] many are shut up by the poverty and obstinacy of the proprietors. They cannot refit them, and they will not sell them. With all its apparent superabundance of houses, houses are consequently enormously dear. It seems very unwarranted to impute this desolate state of Caraccas to earthquakes and civil wars. Both did great mischief; but so did the fire of London and the civil wars in England. The truth is, it must have ever been a mushroom. Where in all time can you trace the industry, the commerce, and the wise polity of Spaniards in South America? And without these solid grounds of grandeur and wealth, what would their vaunted cities have been? The extortions of grandees and priests can adorn palaces and convents; but cities are not so formed, established, and adorned. Caraccas ought, therefore, to be regarded as a monument of the former extent of those mighty agents of human misery, and its comparative desolation as a gratifying evidence of their fall. But to its present inhabitants.

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[5] This was written 1826.

"The proper inhabitants of Caraccas, as of all Colombia, are Creoles—a mixed race, descended from Spaniards and Negro or Indian women. The mixture seems greatly to have degraded the blood of both. Clothe a Creole with a little brief authority, and his blood boils with impatience to prove itself more allied to the white than the black by unbounded, inconceivable, and most capricious acts of ostentation, presumption, and vindictive cruelty. His breast is even haunted and goaded by ten thousand images of his degradation, by being his mother's son. They who have seen much of such persons in the continents or islands of America will recognise this picture as no exaggeration. As this mixed blood flows on from generation to generation, it may improve. This improvement is already visible in Colombia. Let us hope that it will proceed without interruption, and that the Creole blood

'Will work itself pure, and as it runs refine.'

In considering the native inhabitants of this American London, you must exclude entirely from view the exchange and the great streets, merchants, shopkeepers, and artizans connected with it, and confine your attention to the west end and to St Giles's. All the commerce, the skill, and the industry (at least handicraft industry), are in the hands of foreigners. The fashionable Caracanians are proprietors of immense tracts of country, on the partial and ill-proportioned revenue of which they doze out life. The lower classes live as donkey-drivers or dram-sellers. There is no society, no converse, no communication of intelligence or conviviality. They eat their meals in sensual sullenness, and then smoke cigars morning, noon, and night. Their ladies are nothing loath to witness and share the luxury. But view them in church, in the magnificent cathedral, especially on festival occasions, and you are full of admiration. They are richly and even elegantly dressed—all silks of various kinds and colours. A silk shawl adorns the head, perhaps rather fantastically, and hangs down over the shoulders in the most graceful manner, but is studiously prevented from concealing the beauties of the bosom and waist. The skirts below are equally guarded against enviously withholding from view the neatest ancles which ever nature turned. The stockings and shoes are suited to all this array of grace and charms. They come tripping into the hallowed house, a damsel steps from behind, and lays a cushion for her mistress's knees, which would do no discredit as a hearth-rug to the most splendid drawing-room in London. It is in the middle of the consecrated place, where no seats or forms obstruct your view. As soon as the lady drops on her knees she adjusts, with reverted hand, her dress behind, as if fearful of accidental exposure, but carefully abstains from covering her fine feet and ancles. Whether it be "nature that works in her so," as Milton has it, or whether the practice is derived from times when men as well as women frequented Catholic churches, I am not able to determine. Their dark round eyes are full of life, and, you hastily conclude, of intelligence.

"I dare not meddle with the characters and manners of foreigners in this place. The North Americans are here, as everywhere, blunt, bold votaries of gain. The Germans are coarsely devoted to the same dread divinity. An Englishman, who content to imprison himself for years, often for life, in a country without port or shipping, and among men without intelligence or social urbanity, will not be suspected of taste, spirit, or elevation of mind. The English libraries in Caraccas are ledgers. English talk, if not "of bullocks," of bales. Yet it will not appear incredible that in this narrow, ignorant, lifeless set of beings there should be pretensions to exclusive politeness, and acquaintance with manners. It is absolutely true that a few families in Caraccas (certainly not one half dozen) claim to be the only genteel society there, and if you dare to associate with mechanics or artizans (who are probably far more enlightened than they, and drink much less copiously, though more openly), you are denounced and hunted down as a disgrace to society. Unenviable, however, is the high distinction of this aristocracy; for, separate them from each other, and they bite their fellows with more than canine good will. After all, this pitiful conduct ought to be excused, perhaps, as the inevitable effect of the circumstances in which they are placed? Who would look for gentle manners from a soldier, in the act of storming a battery? Who would expect liberality, candour, and conscious dignity from him who buries himself for gain in the bosom of the Andes?

The city contains 5 churches, including the cathedral, all well built, especially that of Alta Gracia, which for the excellence of its architecture would do honour to the first city in Europe. The population, in 1802, amounted to between 41,000 and 42,000 persons, of which the whites formed one-fourth. This number had increased to 50,000 in 1812, when the great earthquake took place, which buried 12,000 of the inhabitants in the ruins; but the political events which have since taken place, have reduced the population to less than 30,000 inhabitants. Beggars abound, and their indolence is insured by mistaken charity. This large city had no printing press till 1806, when a Frenchman, named Delpichi, introduced one.

Carthagena.] The city of Carthagena is situated in 10° 26′ 35″ N. lat. and 75° 26′ 45″ W. long. It was founded in 1533. At present it offers the melancholy aspect of a cloister. Long galleries, short and clumsy columns, streets narrow and dark, from the too great projection of the terraces, which almost prevent the admission of day-light; the greater part of the houses dirty, full of smoke, poverty-stricken, and sheltering beings still more filthy, black, and miserable;—such is the picture at first presented by a city adorned with the name of the rival of Rome. However, on entering the houses, their construction, singular at first sight, appears afterwards to be well contrived, the object being to admit the circulation of the fresh air. The rooms are nothing but immense vestibules, in which the cool air, unfortunately so rare, might be respired with the utmost delight, were it not for the stings of thousands of insects, and for the bats, whose bites are not only more painful, but are even said to be venomous. A table, half-a-dozen wooden chairs, a mat bed, a large jar, and two candlesticks, generally compose the whole stock of furniture of these habitations, which are built of brick, and covered in with tiles. Two sieges which Carthagena has undergone, have ruined the resources of the majority of its inhabitants.

"Carthagena is very strong, and of vast extent. Nine thousand men at least would be required to defend it at all points. The immense cisterns contained within its walls, are justly objects of admiration; and the water preserved in them is excellent. Carthagena is, therefore, rather a fortified than a commercial town, and will entirely cease to be the latter, when it is no longer the entrepot of Panama. At a distance of 200 leagues from the equator, its temperature is hot and unhealthy, and the yellow fever makes frequent ravages there. The population of Carthagena, about 18,000 souls, is, for the most part, composed of people of colour, the greater proportion of whom are sailors or fishermen. Many keep shops for the sale of mercery or eatables, others follow useful trades: they display a nascent industry, which, to prosper, requires, perhaps, only encouragement and emulation. Their shell-works are beautiful. They are skilful jewellers, good carpenters, excellent shoemakers, tolerable tailors, indifferent joiners, blacksmiths rather than whitesmiths, masons destitute of all ideas of proportion, and bad painters, but impassioned musicians.

"The dangers of the sea, and an industry often praised and always well paid, have inspired the people of colour with a pride which often gives occasion for complaint. Their petulance and vivacity form a singular contrast with the indifference and mildness of those who are called Whites, so that, notwithstanding their idleness, they appear active and laborious. The contraband trade is exclusively confined to them, and the heartiness with which they engage in it, is a reproach to those whose duty it is to put a stop to the illicit traffic. The women of colour, the offspring of negresses and white men, are tall, and much more agreeable than the mulattoes of our Antilles, who are generally too corpulent: daughters of the Indians and negroes, their physiognomy possesses greater delicacy and expression. If, on the one hand, the races become more enervated under the tropics as they become fairer; on the other, their personal appearance is improved. Thus it is, that the female mulattoes are very inferior in beauty to the whites, and lose much when seen near them, which often happens with the Spaniards, in whose churches there are no privileged places, as in those of the United States. With the Spaniards, all pray to God in common, without regard to colour; and an insurrection would doubtless be the consequence, should the following notice be affixed at the church-doors: "*To-day instruction for men of colour.*"

Cucuta.] Rosario de Cucuta is understood to have been fixed on as the future capital of Colombia, under the name of the *City of Bolivar.* It will ever be famed in the annals of Colombia, as the town in which the first general congress was held, and where the constitution was formed. In 1820, the deputies of Venezuela and New Granada assembled here: their session, which lasted three months, was held in the sacristy of the parish church. "At present," adds one writer, "there is nothing to commemorate this important event; but the church in which it took place, is by far the neatest and in the best preservation of any we have hitherto seen: the architecture is somewhat in the Moorish style, and would do honour to a country more advanced in the arts. It is kept in the nicest order,—the least respect that can be paid to its important history. Amidst a quantity of trash, it contains a Madonna and child, painted by a Mexican artist of the name of Paez, and evidently copied from Raphael's *Madonna del Pesce,* which surpasses what one might expect from a South American artist. It is the offering of a late archbishop of Caraccas, and was painted in 1774. The appearance of the town is extremely pleasing. Surrounded by rich *haciendas* in excellent cultivation, it stands, as it were, in the midst of a delightful garden. The perspective at the extremity of each street, terminates in a beautiful vista, with high mountains in the back-ground. The town, which is not large, is neat and well built. It has not suffered from the earthquake. The houses, though not large, have a clean appearance. The streets are paved, and have a current of water running through the middle. The inhabitants appear to be very fond of dancing. Every evening, they assemble in the square to the number of fifty or sixty, and figure away with great animation to the most deafening music, by the light of paper lanterns, and the glare of innumerable segars. The chief instruments are calabashes filled with Indian corn, which are rattled to the thrumming of guitars." The department itself to which it belongs, (it is in the province of Pamplona,) has received the appellation of *Boyaca,* in commemoration of the memorable victory gained on the field of Boyaca, in the province of Tunja, where the Spanish cause in New Granada received its death-blow from the hands of the Liberator, "aided by his brave British auxiliaries."

Panama.] "Guayaquil," says M. Mollien, "is built of wood; Buenaventura, of straw; Panama has retained something of both kinds of architecture. At first sight, however, this town pleases the European: he sees houses of three stories, inhabited by several families; consequently, as in his own country, all is noise and bustle." But on a nearer view, the place presents very far from pleasing or attractive features. The streets are narrow,—much darker, and even much dirtier than those of Carthagena. The people are excessively uncleanly. The town is in ruins. "In some districts, whole streets have been allowed to fall into neglect, and even the military works are fast crumbling to decay. Every thing, in short, tells the same lamentable story of former splendour and of present poverty." "Panama," says Capt. Basil Hall, "has flourished for a long series of years, but its sun has at last set with the golden flag of Spain, the signal of exclusion wherever it waved."

New Valencia.] The city of New Valencia stands about 3 miles to the W. of the lake of the same name. It was founded in 1555, and contained 10,000 souls in 1810. "The inhabitants," says M. Lavaysse, "are nearly all Creoles, the descendants of ancient Biscayan and Canary families. There is great industry and comfort in this town. It is as large as a European town of 24,000 souls, because the greater part of the houses have only a ground-floor, and many of them have gardens. Fifty years ago, its inhabitants passed for the most indolent in the country. They all pretended to be descended from the ancient conquerors, and could not conceive it possible for them to exercise any other function than the military profession, or to cultivate the land, without degrading themselves. Thus, they lived in the most abject misery on a singularly fertile soil. Their ideas have since completely changed; they have applied themselves to agriculture and commerce, and the grounds in the neighbourhood are well cultivated. Valencia is the centre of a considerable trade between Caraccas and Puerto Caballo."

Maracaibo.] The city of Maracaibo is situated in 10° 30′, N. lat. on the left bank of the lake of the same name. It was founded in 1571, and contains a population of 25,000 souls.

Merida.] Next to Caraccas, this was by far the largest city in Venezuela; but two-thirds of it are now in ruins,—the effect of the same convulsion that desolated the capital, and the population does not probably exceed 4,000 souls.

PERU.

THE name of *Peru* is still more familiar, even to common readers, than that of Mexico,—history and romance having both contributed to shed a peculiar lustre around its far-famed Incas. The voyages of Ulloa, Condamine, and Bouguer, are generally known, though made only to Quito, a region strictly speaking detached from Peru. Several detached notices, chiefly relating to this interesting country, have appeared in the *Viagero Universal*, begun in 1765 and completed in 1802; and the *Mercurio Peruviana*, begun in 1791 and carried on till 1798. From these two works, Estalla compiled his work on the Spanish colonies in South America, which has added much new and interesting information respecting the region watered by the vast Maranon and its tributary streams, abstracted from the recent voyages of fathers Girval and Sobreviela, on this mighty river. The appellation of *Peru* was not that by which this country was known to its early inhabitants,—but is said to have been imposed by a mistake of its rude conquerors, who, having surprised one of the natives fishing in a river, and he supposing by their gestures that they asked his own name, answered *Peru.* The name of the country is properly *Tahuantin Suyu.*

Boundaries and Extent.] The limits of the viceroyalty of Peru, properly so called, have been greatly circumscribed during the course of the last century. In 1718, the province of Quito, on the north, was dismembered from it; and, in 1778, Potosi and a number of opulent districts in the south were annexed to the new viceroyalty of La Plata. The modern republic of Peru, independent of these disjoined provinces and the tracts mentioned above, extends from the river of Tumbez, in 3° 30′ S. lat., to the southern extremity of the chain of Vilca Nota, in 15° S. lat., being 690 geographical miles; but as the direction is diagonal, from N.W. to S.E., or from 3° 30′ S. lat. and W. long. 80° to S. lat. 15° and W. long. 70° 30′, the horizontal distance is about 1,000 British miles; while along the coast, to the river Loa, in 21° 15′, the extreme length is 1,600 British miles. The maritime tract, from 15° S. lat. to that stream, comprehends the long and narrow stripe of Arica, extending upwards of 600 miles along the shore, by a medial breadth of 70 British miles. The breadth of this republic, from the irregularity of its figure, is very various, and very small compared with its longitudinal extent,—not exceeding 240 British miles at a medium, extrinsic of the province of Arica, so that its square contents cannot exceed 33,630 square leagues, or 247,830 British square miles; to which, if Arica be added, it will amount to nearly 300,000 British square miles. According to these dimensions, this country is bounded on the N. by Colombia and Brazil; by the Pampas del San Sacramento, or

Steppes of the Holy Sacrament, on the N.E.; on the E. by the savage tribes of the Pajonal, a vast steppe covered with long grass; on the S.E. by the newly founded republic of Bolivia; on the S.W. the Pacific ocean is its maritime boundary along its whole extent of coast. If, however, the boundaries of the country be extended westward to the Portuguese frontier, at the junction of the Sarare with the Guapore or Itenas, and from thence N.W. to the confluence of the Itenas with the Madeira; and thence crossing this latter stream, be carried across the country N.W. as far as the junction of the Maranon and Yavari, in S. lat. 4° and W. long. 67°, where the boundaries of Peru, Brazil, and Colombia meet, the superficies of this republic, including the Pampas, or Steppes of the Holy Sacrament, and the Colonna, or 'land of the missions,' inhabited by numerous tribes of Indians, and making part of what was formerly denominated Amazonia, will exceed 800,000 square miles. In this case, the extent of the vice-royalty will be increased from 240 miles from W. to E., to 800 miles of medial breadth in the same direction, the breadth varying from 700 to 900 British miles: namely, from Cape Blanco to the confluence of the Maranon and Yavari, on the northern frontier, 900 British miles; from the coast, in S. lat. 10°, to the Madeira, in the same parallel, 875 British miles; and from Pasco, on the coast, S. lat. 14°, to the confluence of the Sarare and Itenas, more than 900 British miles.

Divisions.] Before the disjunction of Quito on the N., and the districts on the S., the viceroyalty of Peru contained 74 *partidos*, or provinces; but these were subsequently reduced to 49 partidos and 1,360 townships, as follows, proceeding from south to north:

1. Arica
2. Arequipa
3. Canes and Canches.
4. Paucartambo
5. Chilques
6. Chumbivilcas
7. Huancavelica
8. Aimarez
9. Cotamba
10. Cuzco
11. Abancay
12. Calcaylares
13. Andahuaylas
14. Parinacochas
15. Lucanas
16. Ica
17. Castrovireyna
18. Vilcashuaman
19. Huanta
20. Angaraes
21. Yauyos
22. Caneto
23. Guarohiri
24. Jauja
25. Tarma
26. Canta
27. Ghecras
28. Huanuco
29. Caxatambo
30. Santa
31. Huaylas
32. Conchucas
33. Pastas
34. Caxamarquillo
35. Huamachucas
36. Truxillo
37. Sana
38. Caxamarca
39. Chachapoyas
40. Lamas
41. Luya y Chiloas
42. Piura.

The remaining 7 were of very small extent and importance.

Peru, like Mexico, is now divided into 7 intendancies, instead of the former *corrigiamentas*, which were judged too minute. These are, *Lima*, *Tarma*, *Arequipa*, *Cusco*, *Guamanga*, *Truxillo*, and *Huancavelica*. The intendancy of Tarma contains above 8 of the above districts. The extreme north district of Piura belongs to the intendancy of Truxillo, having the province of Jaen de Bracamoros to the E., belonging to Colombia. The most southern inland province of Peru is that of Canes and Canches, watered by the Apurimac, and deriving its name from two Indian tribes, who originally possessed it, and who were conquered by Roca, the second Inca. In the N.E. there is an extensive district inhabited by independent Indians.

CHAP. I.—HISTORY.

De La Vega, who digested the Peruvian traditions into the form of history, asserts that this empire had flourished during a period of 400 years before the arrival of the Spaniards. In that time 12 *Incas*, or emperors, had completed their reigns; the thirteenth had recently ascended the throne when the Spaniards first made their appearance.

Atahualpa.] Huayna Capac, the twelfth Inca, had bestowed on Atahualpa or Atabilipa, a beloved son, the kingdom of Quito during his life, and would have given him the whole empire, had not the law ordained, that the son of the Inca, by his nearest female relation, should succeed to the supreme power. At his death, therefore, the empire devolved to Huascar his lawful heir. This emperor, unwilling that so great a part of his empire should be given to his brother, and, perhaps apprehensive lest Atahualpa's turbulent temper should disturb him in the quiet possession of the rest of the empire, despatched a herald to Quito, to inform him that their father had exceeded his rightful power when he dismembered the empire, and to summon him to proceed with all his nobles to Cusco, to do homage to his brother for the kingdom of Quito. Atahualpa, more cunning as well as more brave than his brother, appeared extremely willing to obey the orders; and promised to resort, in a short time with his nobles to Cusco, there to do the homage required. He issued orders to his chiefs to attend him immediately; and, under pretence of performing the homage with the greater solemnity, he required them to bring along with them a number of their armed followers. By this ingenious policy, he was enabled in a short time to march for Cusco, at the head of 30,000 men, not to submit to his brother, but to avenge the insult which he conceived had been offered him.

Huascar, in consequence of his brother's friendly answer, had already disbanded the troops which he had convened for the purpose of enforcing his orders; and was taken by surprise when informed that Atahualpa was approaching with an appearance so very hostile; but he hastily mustered what troops could be collected, and encamped in the neighbourhood of Cusco, to repel if possible the arms of the invader. Atahualpa had influence and cunning enough to corrupt several chiefs who were proceeding to join Huascar with their forces; and, pushing rapidly forward, attacked the rest before they could be completely embodied. The engagement was fierce, and lasted from sunrise till sunset; but Atahualpa's troops being chiefly veteran, and those of Huascar raw and undisciplined, and Huascar himself being made prisoner, the imperial army was routed, and Atahualpa became master of Cusco.

Still pretending to moderation, he summoned to his presence all the family of the Incas, for the specious purpose of limiting Huascar's power, and of making regulations proper to secure the happiness and stability of the empire. *Most of them repaired to Cusco, where they were cut to pieces by Atahualpa's orders, and with them the greater part of the chiefs who seemed most strenuously to support Huascar's interest. Having thus* deprived his brother of his freedom; having put to death the greater part of the royal family, and destroyed those who seemed willing to support it; he declared himself emperor, and maintained his influence, not by the love, but by the terror of his newly acquired subjects. This was the state of the country when the Spaniards arrived upon the coast.

Vasco de Balboa—as has been elsewhere mentioned—was the first who discovered the South sea and the Peruvian coast. He afterwards set out with an expedition to explore this coast, but was recalled and put to death by Pedrarias. Several adventurers, who after him attempted the discovery, failed in the attempt; so that by many the voyage was thought impracticable. At length, Francis Pizarro, one of the many Spanish adventurers who at that time crowded to America, and who had by his services obtained some credit, and a considerable share of wealth, associated himself with Diego de Almagro, another adventurer, and Ferdinand de Lugno, an ecclesiastic, for the purpose of fitting out an expedition for the discovery of this country, and, if possible, for its conquest.

Pizarro's Expedition.] In consequence of this contract, Pizarro, who was to command the expedition, sailed from Panama, in November, 1525, with about 80 men, and 4 horses. In his voyage along the coast, owing to his ignorance of the winds which blow in those seas, he met with innumerable obstacles,—many of his men perished, the commanders differed among themselves, and he was at one time deserted by all but 15 followers. Still, however, he persevered; and proceeding along the coast, landed on several parts of it, where he discovered such marks of wealth and fertility as prompted him to return; in order to procure new supplies to enable him to make a conquest of the country.

Having spent no less than three years in this fruitless expedition, he returned to Panama, and thence immediately sailed for Spain, to solicit a royal commission and royal support. His presents were acceptable to the Spanish monarch, and, together with his magnificent promises, easily obtained for him the commission he demanded; he was authorized to proceed in his projected conquest, and obtained the title of governor and captain-general, with the offices of lord-lieutenant and chief justice; the twentieth of the profits to arise from the conquest were also granted to him and Almagro, in the proportion of two-thirds to Pizarro, and one-third to Almagro. Pizarro, on his return to America, found Almagro displeased with the preference, which, in the several grants made by the king of Spain, appeared in his favour; nor could this disgust be removed, till Pizarro relinquished the title of lord-lieutenant, and consented that the profits to arise from the conquest should be equally divided; and even then, as the event proved, the reconciliation was but pretended. In consequence of this reconciliation, however, such as it was, Pizarro, who was again to have the conduct of the expedition, embarked at Panama. His squadron consisted of 3 ships, carrying 185 soldiers, 37 horses, several pieces of ordnance, and such quantities of ammunition and other stores as appeared necessary to enable him to make settlements on the Peruvian coasts.

Choosing rather to land in the northern parts of Peru, than to labour against winds which continually opposed him, and thinking himself more than a match for any force that could be brought against him, he soon drove the natives, by his violent conduct, from that part of the country where he made his descent, and was, consequently, obliged to march many leagues through a country partly desert, and partly laid waste by his own barbarity. In this march, although he acquired much treasure, he lost the greater part of his men; he therefore sent back his ships to Panama, to display the treasure he had acquired, and to bring him a reinforcement. In the meantime, he proceeded southward, till he arrived at the island of Tumbez, in the bay of Guayaquil, and here he first learned that the country was involved in the civil war which has been already mentioned. The island of Tumbez had continued faithful to their lawful prince, while the island of Puna had joined Atahualpa the usurper.

Pizarro, sensible of the advantage offered him by this distracted state of the country, and willing, for his own interest, to oblige one of the parties, joined the inhabitants of Tumbez, and made an easy conquest of the island of Puna. A considerable reinforcement having in the meantime been sent by Almagro, Pizarro thought himself sufficiently powerful to withstand the forces of the empire, even upon the continent, and resolved to proceed into the interior parts of the country.

With this design he landed in the island of Tumbez, where he expected a friendly reception; but, Atahualpa having, by force, become master of the empire, had despatched troops to Tumbez to oppose his landing, and to avenge the insult offered to his arms in the island of Puna. These forces attacked the Spaniards, and killed some of them, but were soon dispersed by their arms and artillery. This unexpected attack, though contrary to his expectations, was perhaps agreeable to the wishes of Pizarro; because it furnished him with a pretext for plundering the whole country of its wealth, which, as there was in this place a temple of the sun, and a palace of the Incas, was very considerable. The execution made among the Indians by the Spanish artillery and horses, impressed their minds with such terror, that he resolved to pursue his advantage, and to advance against Atahualpa while this consternation remained. Waiting, therefore, no longer than was necessary to make a small settlement on the coast, to which he gave the name of St Michael's, he proceeded on his march; and, still desirous of taking all possible advantage of the distraction of the country, he everywhere proclaimed, that he was sent by the king his master to relieve the oppressed, and to lend aid to suffering innocence. This pretence could not fail of the desired effect; for the adherents of Huascar being constrained to yield to the force of Atahualpa, and, consequently, being much oppressed, applied to Pizarro for assistance; and while the Spaniards gave them hopes of support, Atahualpa, afraid that the Spanish force, joined to that of his adversaries, would soon tear him from the throne of which he had so lately taken possession, endeavoured, by submission and by presents, to draw over to his side that power which he so much dreaded to oppose.

The Spaniards, convinced by the submissions and entreaties of both parties, that they might become arbitrators of the existing differences, gave both hopes of assistance, while, at the same time, they took every precaution to foment their disputes, and to diminish their strength. At the same time, therefore, that they made the most amicable professions to Atahualpa, they proceeded on their march to Caxamarca, where he at that time resided. Atahualpa, not a little alarmed at their approach to a part of the country where no enemy threatened him, and where consequently he deemed the presence of the Spaniards unnecessary, sent an ambassador to offer them presents. Pizarro received the presents, and, in his turn, sent ambassadors to the Inca; but still continued his march till he arrived at Caxamarca. Atahualpa, desirous of gaining the friendship of the Spaniards, and of learning the motives of a visit, for which he could see no proper cause, now resolved to wait on them in person. This was an opportunity which Pizarro had longed to obtain. Taught by the example of Cortez, that the easiest way of becoming master of the empire, was to secure the person of its monarch, he determined, in the true spirit of an unprincipled ruffian, to break through the rules of honour and hospitality. The place where he chose to receive the proffered visit was a great square enclosed on all sides by a high wall, and having only two entries secured by strong gates. In this square he disposed of his artillery, his horse and foot, in the most advantageous manner. The Inca unsuspectingly entered, followed by a vast train of his nobles in their richest ornaments, and attended by their armed vassals. Of these 7,000 or 8,000 were permitted to enter, and then, the gates having been shut and securely guarded, after a short time past in ceremony, and mutual professions of amity, at a preconcerted signal, the artillery was directed against the Indians, the Spanish horse and foot rushed furiously to the charge, while Pizarro, at the head of a chosen band, advanced to the emperor, cut to pieces those who surrounded him, and made him prisoner. The Indians had arms in their hands, but, being forbidden by their emperor to offer any violence to the Spaniards, not a man of them attempted to use them; the Spaniards, therefore, made an unresisted slaughter, and butchered the whole, except a few who escaped through a hole which they made in the wall. This act of treacherous barbarity proved to the Spaniards a double advantage: they acquired by it an immense booty, and the person of the Inca, by whose means they hoped more easily to subvert the empire, and for whom they expected to obtain a mass of treasure, in the name of ransom. The latter *part of their expectations was soon fulfilled. Atahualpa offered to fill a large room in the castle of Caxamarca* with gold, for his freedom: and three Spaniards were despatched to Cusco, and to the temple of Pachachamac, to collect the riches which were there deposited. On their way, however, they received from Huascar, whom they visited in prison, an offer of much more wealth than had been promised by Atahualpa, provided they would procure his freedom, and re-establish him upon his throne; he also informed them, that Atahualpa was contriving his escape, and the means of expelling the Spaniards from Peru. This information having reached Atahualpa, drew upon Huascar the vengeance of his exasperated rival, who issued orders to put him to death. The Spaniards make this a heavy charge against the character of Atahualpa, but we may be certain, that if they did not positively approve, at least they did not disapprove of the measure, for, while Atahualpa was their prisoner, he could issue no orders contrary to their inclinations. The deputation, in the meantime, reached the temples where so much wealth was deposited: and though the priests had removed much of it before their arrival, what they found still exceeded their hopes. Some assert that the whole quantity promised by Atahualpa for his ransom, was collected; and none deny that by far the greater part of it was delivered to the Spaniards. But notwithstanding their promises, the Spaniards were still resolved that Atahualpa should die. When, therefore, they had obtained the treasure, and every pretext for further dissimulation was exhausted, they formally brought him to trial, and accused him of being an idolator, of keeping concubines, of usurping the empire, murdering his brother, oppressing his subjects, and endeavouring to escape from prison! He was of course found guilty; and to avoid being burned alive, professed himself a christian, and submitted to baptism, on condition that he should be strangled; he also received from the hand of a priest a passport to heaven. The death of Atahualpa was no sooner known, than the two factions which divided the country united, and elected for Inca, Huayna Capac, the brother and lawful heir of Huascar; while Pizarro, that he might create new factions, and be provided with a pretext for assuming the powers of government, constituted Toparpa, the son of Atahualpa, Inca, and in his name issued such orders as were most agreeable to his own interest.

While the Spaniards were acting a part so replete with treachery and barbarity as this, Almagro arrived upon the coast with a powerful reinforcement; and, although, at first, he hesitated, was at last persuaded to join his forces to those of Pizarro. This accession of strength, prompted the latter to make himself master of Cusco, which he considered as the best method of establishing the power of the Spaniards over the whole empire. He therefore marched towards the capital with all his forces, now amounting to nearly 400 men. The Indians attacked him upon his march, killed some of his men, and made severals prisoners, but found it impossible to withstand the Spanish artillery, and the fury of their horses. When the Spaniards approached Cusco, they found it deserted; and, notwithstanding the great quantity of wealth carried off by the fugitive inhabitants, they still obtained as much as might have satisfied their avarice had that been possible.

Pizarro now perceiving that the whole people were unanimous in the support of the emperor whom they had themselves elected, and that the Inca whom he had created had not influence to produce the desired factions in his favour,—being likewise apprehensive that the extremity to which he had proceeded, might bring upon him, in Cusco, the united wrath of the whole imperial troops, by whom, though he might not be overcome in a fair engagement, he might be confined within the capital and starved into submission,—began to listen to the overtures of Huayna Capac, and at last concluded a treaty, in which the latter agreed to hold his empire of the king of Spain, and to embrace the Catholic religion, provided that he and his subjects should not be farther molested either in their persons or possessions. The Spaniards the more willingly entered into this treaty, as they found employment for most of their forces in reducing to obedience the warlike chiefs in the northern parts of the empire; and were threatened by a much more formidable adversary, namely, Pedro de Alvarado, who had come from Mexico with a body of 800 men. It is probable that Alvarado's designs were originally hostile, since he had conducted his men to Peru through many difficulties and dangers; but finding, upon his arrival, that Pizarro was too firmly established to be easily expelled, he agreed, for 100,000 pesos, to leave such of his soldiers as chose to join Pizarro's army, and to return with the remainder to his government to Mexico. This danger evaded, Almagro returned to Cusco, while Pizarro employed himself in building Lima, and the town of Truxillo,—labours in which he employed the Indians, and which proved fatal to many thousands of them. These cities when built, with the lands round them, he distributed among his followers; and while thus employed, his brother Ferdinand, whom he had despatched for that purpose to Spain, obtained for him the title of marquis, and an extension of the boundaries of his government, farther southward than those of his former grant. To Almagro was given the title of marshal of Peru, and the government of 200 leagues of country southward of that granted to Pizarro. The boundaries of the two governments, however, seem not to have been determined so accurately as to preclude debate; each contended that Cusco, was within his limits, and thus a foundation was laid for a dispute, which afterwards proved fatal to the heads of both parties.

To follow Pizarro and Almagro, with their immediate successors, through the whole of their progress, would conduct us to every recess of villany; and disclose the workings of treachery, cruelty, and avarice, in their blackest forms. This, however, is not necessary; it will be sufficient to sketch the outlines of their conduct towards the Peruvians. The Inca, with whom Pizarro had concluded a treaty, finding that the Spaniards meant not to abide by more of it than their own interest directed, that he himself was but a prisoner at large, and that the edicts issued in his name were only nominally his, conceived a design of escaping from the Spaniards, and of endeavouring to regain his empire by the help of such forces as he knew he could in a short time collect. In order to effect his escape, he informed the Spaniards, that, in a valley at some distance from Cusco, were many rich tombs belonging to the Incas; and that, in one of them, known only to himself, was a golden statue of one of his ancestors, which he would deliver to them, if a few of their number should be sent with him to the spot. The Spanish commander, blinded by the hopes of obtaining such a treasure, permitted him to resort to the place, where he had no sooner arrived than he eluded the vigilance of his guards, and escaped to a numerous body of his forces, which had been assembled by those chiefs to whom the secret of his intended flight had been intrusted. It was immediately resolved to make a general attack upon the Spaniards, and to endeavour to break by force that yoke they now found to be so grievous. The troops of the empire were divided into three bodies, whereof one was destined to attack Almagro, who, with a party, was endeavouring to penetrate into Chili; another was despatched against Lima; and the third and most powerful, commanded by the Inca, in person, advanced to the siege of Cusco. This army, consisting of 200,000 men, attacked the Spaniards, and drove them into the market-place: but was forced by the artillery and horsemen, to retire into the castle, after they had set fire to the greater part of the city. In this situation, having a post within the city, and being masters of the open country, they could easily have cut off the supplies of the Spaniards, and have starved them into submission, had not a great number of those Peruvian vassals, who were considered as attached to the lands, and who were in reality a kind of slaves, enticed by the hopes of liberty, joined the Spaniards. By the assistance of these deserters the latter retook the castle, and made excursions into the country; and the Inca perceiving that he could neither expel them by force, nor waste them by famine, raised the siege after it had continued 10 months.

The troops sent against Lima, meeting several parties of Spaniards in the mountains advancing to the relief of Cusco, completely destroyed them; and afterwards marched with great boldness to the very walls of Lima: but here, as at Cusco, they were unable to withstand the effects of the cavalry and great guns, and the numerous desertions prevented them from cutting off their communications with the surrounding countries. Perceiving that his efforts promised but little success, the Inca at last retired to the mountains, and commanded his troops to return to their several homes, in hopes, it is said, that when the Spaniards saw no enemy to oppose them, their own rapacity would produce feuds among themselves, which would be more fatal than any impression that forces with Peruvian armour could make upon an army furnished with the formidable weapons of Europeans. And had no reinforcements arrived from other quarters their hopes would have been completely realised: but new adventurers were every day attracted thither by the reports of the immense wealth they might acquire, who more than supplied the places of those destroyed by the climate of the country and their mutual quarrels. Besides, the natives were not, in the meantime left to enjoy repose; the alliance of the Spaniards was to them more destructive than their enmity: the toils which they were obliged to undergo, the hardships of every kind to which they were exposed, damped the vigour of their minds, and diminished their numbers more effectually than the dreaded arms and horses of the Spaniards could have effected in open war. Thus while the Spaniards daily increased in numbers, the Indians were as constantly decreasing and losing their spirit of independence and fortitude. The Inca's hopes, therefore. were not well-founded; and the Peruvians never made any successful efforts against the Spanish encroachments. The cruelties of their oppressors, however, appeared at length so intolerable that the Indians again revolted and took up arms to attempt the recovery of their freedom. They had now learned somewhat more of the nature and use of European arms, and become familiar with the horses, animals which at first appeared so dreadful to them; they therefore attacked the Spaniards with more resolution, and were not subdued without considerable difficulty. But though they made a vigorous impression, they were in the end reduced, not only by the superiority of the Spanish arms and discipline, but by the assistance of a great number of their countrymen, who, for the sake of nominal freedom had joined the Spaniards. This was the last effort made for the recovery of their freedom by the natives. The Inca having, in a short time afterwards lost his life in a quarrel with a Spaniard with whom he had been gaming, the government of the country was conducted by the Spaniards alone, without even the shadow of a native prince.

Attempt to shake off Spanish allegiance.] But though Peru was thus in the possession of Spaniards, it was far from being secured to the Spanish monarchy. The first adventurers, elated by the vast wealth they had acquired, and encouraged by their distance from Spain, endeavoured to throw off all allegiance to their native country, and to claim Peru by right of conquest,—a conquest, which, they asserted, had been made at their own risk and expense. But the wealth of Peru was no less desirable to the king of Spain, than to these adventurers; and they were reduced to submission, after an obstinate contest, and the commission of all manner of atrocity.

Condorcanqui's revolt.] In the subsequent history of Peru, we observe some feeble attempts of the Indians to recover their liberties and expel their oppressors. The Indians, however apparently stupid and indolent, are cunning, active, and deceitful, whenever they act together in a combined body in popular insurrections. The most formidable of these occurred in 1780. The principal cause of this revolt was the oppressive operation of a law authorizing the Spanish corregidors to distribute among the Indians foreign goods at fixed prices, and which they were compelled to pay, whether they wanted them or not. This law was called the *repartimiento*, a privilege originally granted with a view to the accommodation of the natives, who, it was intended, should be supplied through the corregidors with whatever European goods they required, at a fair price. But this—like many other excellent laws in the archives of Spain—was soon abused, and became one of the most grievous burdens to the Indians. Cargoes of goods, damaged or unsaleable at home, were sure of a market in South America, under the influence of the corregidors, who had sufficient power to force them at exorbitant prices upon the Indians of their districts, even though of no use whatever to them. Playing cards, (for those who knew not their use or meaning) razors, (for men who had no beards) spectacles, (for those who had excellent eyes) silk stockings, velvets, and other luxuries, (for people who went bare-legged, nay, almost naked) constituted part of the supplies for which the Indians were compelled to pay! As an illustration of the iniquity and absurdity of the system, the following is an instance. A European speculator sent out among other articles a consignment of spectacles to a Lima merchant, who, finding them a drug upon his hands, applied to the corregidor of Tongasuca to aid him in the disposal of them: the latter issued an order that no Indian in his district should attend divine service on festivals, unless ornamented with spectacles, and the consequence was a speedy sale of the whole. It was this unheard of oppression, together with the *mita* or labour at the mines, a grievance equally odious, and still more cruel, which roused the Peruvians to vengeance, and led to as sanguinary a contest for nearly two years, as any recorded in history. The mita, or annual conscription of the natives to forced labour in the mines, was notoriously cruel and unjust; 12,000 Indians were annually subjected to the mita conscription in Potosi alone; and it has been computed, says general Miller in his Memoirs, that 8,285,000 Indians have perished in the mines of Peru. An Indian named Condorcanqui assumed the title of *Inca Tupac Amaru*, or 'The Highly Endowed Inca,' in 1780; and he first seized in the name of the king the corregidor of his native district Tongasuca, and executed him as a public robber, for having exacted on the goods which he sold three times the amount allowed by law in November 1780, and soon afterwards a bloody battle was fought near Cusco, in which the Spaniards were defeated, and then the victorious leader, his brows bound with the imperial fillet of the Incas, marched upon Cusco, to re-establish their empire in their ancient metropolis. He laid siege to the city, and several other partial successes attended his career. The Indians of the province of Chayauta, headed by their cacique Tupac Catari, also revolted, against their corregidor, and the military force employed to reduce them, totally failed of success. Other caciques rose up in rebellion in other provinces, under the assumed title of Tupac Catari, or the Vice-Inca. A battle was fought between the Spaniards and the Indians of Chayauta, in which their leader, Tupac Catari, was taken, and directly executed. But this did not check the revolt, but added new fuel to the flame; and a brother of the deceased chief assumed the command of the Indians of Chayauta, and commenced his career in the province of Paria, by putting every Spaniard he found to the sword, beginning with the corregidor, and thence it spread to all the neighbouring provinces. Tupac Amaru, repulsed in his attempt to take Cusco, retired to the province of Tinta, where he committed unspeakable cruelties, and proved his design not merely to kill corregidors and Spaniards, but all who were not of pure Indian blood. The rebellion was now so general and overwhelming, that the governors and corregidors were everywhere obliged to act on the defensive. The Indians in the province of La Paz rebelled under another chief, also entitling himself Tupac Catari, who slaughtered all the Spaniards, and Mestizoes, and ecclesiastics of the province, not even sparing the very infants. After several indecisive actions, in which the Indians showed great bravery, and even defeating a regular force sent against them, they at last, to the number of 40,000, closely besieged La Paz for 109 days, during which three-fourths of the city were laid in ashes, and one-third of the inhabitants perished, besides 400 Spaniards killed by the enemy. The timely arrival of the governor of Cochabamba and the troops of Tucuman saved the city, and raised the siege. But no sooner had the troops retired from La Paz, in the beginning of August, 1781, than the Indians again revolted, and again besieged La Paz for 75 successive days, till the garrison and inhabitants were reduced to the greatest distress, till the siege was again raised by a regular army. In the meanwhile Tupac Amaree's son, Andris, invested the town of Sorata with 20,000 Indians, and after a siege of 92 days took it by storm, and put every individual found in it to the sword, amounting to upwards of 20,000 persons, on the 4th August, 1781. Tupac Amaree, the principal insurgent, was attacked by a force of 16,000 men, commanded by the inspector-general of Peru, and defeated at Tongasuca, and finally defeated, though the Indians fought with the greatest bravery, as their cannon was badly served.* Previous, a body of 6,000 Indians had been defeated near Tinta, with the loss of 1,000 men killed on the spot. The chief rebel Tupac Amari was taken prisoner, and immediately executed at Cusco, after witnessing the execution of his wife and children. His tongue was cut out, his limbs torn asunder by horses, and the mutilated fragments reduced to ashes. The Indians of the mountains, however, still continued in rebellion; took the towns of Italaque and Mocomorro by storm; and massacred every Spaniard, whether European or Creole, they found, together with the women and children. An army of 5,000 men was sent against them from La Paz in February, 1782, which, after several severe conflicts, in which the Indians fought, even their women, desperately, they were at last quelled. The last engagement was at the base of the gigantic Ilimani, where many of them perished in the snow. In the district of Corosco the Indians murdered every Spaniard, Mestizoe, Chola, Negro, and Mulatto not sparing the women and infants. On the festival of Holy Thursday, while the host was exposed in the church, they massacred there 572 persons. But at last peace was restored in the mountainous districts, and the rebellion quashed in the summer of 1782. Nothing preserved the existence of Spanish domination but the imprudent and impolitic conduct of the Indian chiefs, who put to death all who were not pure Indians, and thus united all the other castes against them, to preserve their own lives. It is believed that in this sanguinary war one-third of the entire population perished, a thing not improbable, when it is considered that the Indians, as stated above, destroyed in a number of districts and towns all the other castes who fell under their power; and that, on the other hand, the Spaniards retaliated when in their power, and destroyed men, women, and children. The slaughter amongst the undisciplined Indians was immense, armed only as they were with slings, when exposed to the fire of the Spanish soldiers. The reinforcements sent to the royal army from Buenos Ayres, Tucuman, and Cochabamba were mostly regular troops. Thus ended a bloody contest of nearly two years, commenced in all the recklessness of revenge, by a race naturally docile and unoffending, goaded to desperation by the unceasing tyranny and oppression of their despotic rulers; and this, too, at a time when the court of Spain had joined the cause of American independence against a government, which had not inflicted a tithe of the injustice and oppression which that very court had been exercising for 250 years against its Indian subjects. It must be remembered that the wrongs which that unhappy race were doomed to suffer were many and grievous, and that every remonstrance in mitigation of them had proved unavailing; and the revengeful conduct of the Peruvians is in strict accordance with that of other nations, when roused to vindicate their rights, and shake off the yoke of slavery. Such events are practical illustrations of the remark, that tyrants live in the blood of others, but usually die in their own. Success characterizes measures, and the revolt of a nation becomes either a glorious revolution or an ignominious rebellion. The brave and desperate struggle of the Peruvian Indians has unfortunately been stigmatized with the latter appellation. It was, however, so far successful as to cause the abolition of the repartimientos, and undoubtedly paved the way in some degree for the late revolution, which has expelled every European Spaniard out of Peru, and freed both colonists and natives from the abominable abuses of Spanish domination.

Recent Revolution.] Amidst the disturbances which lately convulsed the Spanish provinces, Peru remained for some time passive, or rather seemed to be attached to the interests of the mother-country. Latterly, however, the same spirit of disaffection prevalent in the other provinces, extended to her; and Victory, as elsewhere, declared for the new order of things. San Martin, the insurgent general, on the 3d of August, 1821, was proclaimed protector of the independence of Peru, until such time as a national congress could be established. On the 5th of June, 1829, a second revolution placed the generals Fuente and Gamarra at the head of affairs.

CHAP. II.—PHYSICAL FEATURES.

Western Andes.] The highest summit which these present is the cone, or rather trachytic dome of Chuquibamba, rising majestically above the valley of that name, to the north of Arequipa, to the height of 22,000 feet. In form and geognostic structure it is altogether similar to that of Cayambe in Quito, as that mountain appears only to want a crater. To the W. and N.W. and E. of Arequipa occurs the valley of the same name, surrounded by mountains covered with eternal snow. The central peak of this group of nevados is the celebrated volcano of Arequipa, called Omati. Its form and gigantic proportions admit of its being compared with Cotopaxi in the Andes of Quito. Its elevation exceeds 18,000 feet. More to the S. between the parallels of Arica and the Rio de Loa are several volcanic cones of great height. The most elevated, namely, the nevados of Gualatieri and Sahuma, do not seem to be inferior to the Cerro of Chuquibamba. The former of these two, in the Bolivian province of Carangas, rises above a table land of red sandstone, which contains much copper. The cone which attains the region of eternal snow offers the most imposing aspect by its regular, almost geometric form. There is not perhaps any mountain which can be compared to it, in this respect, in the whole chain of the Peruvian Andes. It is truncated, and allows the presumption, that at its summit is a vast and deep crater. Vapour and smoke are constantly issuing from it, and, according to the report of the Indians who inhabit the village of Turco, at the foot of the mountain, flames also sometimes escape.

The Sahuma presents two conical summits, as regular as that of Gualatieri. They are also formed of trachyte and trachytic conglomerates. Between the parallel of Sahuma and that of Tacora there are several other volcanic mountains, some of which attain a height of 20,000 feet. N.W. of Tacora is the nevado of Chipicani, on the summit of which a crater has burst open on the eastern side. A little farther, a less elevated plateau offers the remains of an extinguished volcano, a genuine Solfatara, whose vapours are condensed in the Rio Azufrado, the waters of which are strongly impregnated with iron and sulphate of alum. They may be seen pouring from the Solfatara itself, and in their rapid course towards the sea they even attack animal organization, as in the Rio Vinagre, near Papayan.

What is remarkable, no traces either of basalt or pyroxene were found by Mr Pentland in the volcanic regions of the Andes which he crossed Trachytic pitch stones, obsidians, and other vetrified products of volcanoes are extremely rare. Trachytic conglomerates, and trachytes mixed with grains of quartz, are the forms under which masses of volcanic origin are most frequently presented. In the eastern Andes remains of mining excavations for auriferous earth are found at an elevation of 16,600 feet on the northern slope of the Ilimani. These were wrought by the Peruvians under the Incas, long before the arrival of the Spaniards. The Cerro de Potosi, though 16,080 feet high, is covered with wells and galleries to the very summit, an elevation higher than that of the summit of Pichincha. The entry of the gallery of San Miguel and of Pomare, in the Peruvian province of Lampa, is still more elevated, being close to the region of eternal snow.

TABLE OF ELEVATIONS IN THE ANDES OF TITICACA.

	Feet.
Sorata (eastern chain)	25,400
Ilimani southern peak (do. do.)	24,250
Do. northern do. (do. do.)	21,000
Chuquibamba (western chain)	22,000
Volcanic cone of Gualatieri (do. do.)	22,000
Do. do. Sahuma (do. do.)	22,000
Volcanic cones between Sahuma and Tacora (do. do.)	20,000
Snowy peaks in the Eastern Andes, between 14° and 17° S. lat. upwards of	20,000
Omati, or volcano of Arequipa (western Andes), upwards of	18,000
Highest ascent of Mr Pentland on the slope of the Ilimani	19,000
Inferior limit of perpetual snow in the Eastern Andes, between 13° and 17° S. lat. in the Republic of Bolivia	17,410
Height of mining excavations in the Ilimani	16,600
Summit of Potosi (Eastern Andes)	16,080
Cottages at the source of the Ancomarca	15,721
Highest point of phænogamous plants on Potosi	15,700
Do. do. do. Ilimani	15,500
Pass of Chullunquani, on the road from La Paz to Tacua (Western Andes)	15,560
Do. of Los Altos de Toledo, between Puno and Arequipa (do. do.)	15,530
Ancomarca post-house	15,410
Pass of Guatillas, foot of the volcano of Tacora (do. do.)	14,830
Do. of Challa, between Tapacari and Challa (Eastern Andes)	14,830
Do. of El Paobite de Pacuani, between La Paz and the province of Las Yungas (Eastern Andes)	15,231
Post-house of Pati, between Arequipa and Puno (western do.)	14,402
Village of Tacora, between the volcanoes of Tacora and Chipicani. This village is on the road from Tacua to La Paz (Western Andes)	14,275
Height of cultivation in the plateau of Titicaca, on the slopes of the mountains, between 14 and 18 degrees of latitude, upwards of	14,000
Market-place of Potosi	13,350
Mean elevation of the plateau of Titicaca	13,027
City of Puno	12,832
Chucuito city, or La Plata, upwards of	12,800
Lake of Titicaca	12,760
City of Oruro	12,442
Do. of La Paz	12,194
Do. of Chuquisaca	9,332
Do. of Cochabamba	8,440
Do. of Arequipa	7,217

From this table, it is clear that the Andes of Quito, so long boasted of as the highest on the face of the globe, are even far inferior to the Andes of Peru; and Chimborazo, hitherto viewed as the most elevated summit of the globe, is now shorn of that honour, and must no longer rank as the Mount Blanc of the American mountains, but hide its diminished head in presence of the sublime Sorata and the majestic Ilimani—nay, even before those of the western or inferior chain. It also appears, from this table, that this part of the great Andine range must now be viewed as the highest part of the whole chain, if we may judge from the height of the passes; for in the Chilian range the highest pass yet found is only 14,365 feet. It also appears, both from Humboldt and Pentland, that the range of the Andes is not a continuous snowy chain, as many imagine, but that there are considerable breaks in different parts of the line of the range, in that of perpetual snow, and, consequently, that the range by no means approximates to a state of uniform elevation, and differs in this respect from the Great Himalaya, which throughout its whole extent presents a continuous line of eternal snow. It appears also, from this table, that the hamlet of Antisana, boasted of by Humboldt as the highest inhabited spot of the globe, and which, in his table, he places at an elevation of 2,107 toises, or 13,500 English feet above the sea, is more than 2,200 feet lower than the cottages at the source of the Ancomarca; and the highest village in Quito, called Chumbe, is 2,275 feet lower than that of Tacora. But, high as the habitable and cultivable parts of this most elevated district are, they must still yield in both these respects to the plateau of Tibet, though 15 degrees more removed from the equatorial line, where vegetation is carried up to the elevation of 17,000 feet and upwards, and where the inferior line of perpetual snow is in some parts as high as 20,000 feet.

Besides the immense chain of the Andes, with its accompanying sierras, or secondary ridges, another chain runs parallel with the Andes from the lake of Lauricocha to Jaen de Bracamoros, for 500 British miles, separating, in its whole extent, the course of the Tunguragua, with its tributary streams, on the W., from those of the Guallaga, on the E. Another chain covered with snow, runs from above Cusco to the heights of Huaylas and Huamachuco. A third chain, projecting from the main ridge of the Andes into the interior of the country, passes along the E. of the Beni, from the high mountains of the province of Sicasica in La Plata, separating the course of the Beni from that of the Yavari. This ridge is of considerable height, runs nearly from S. to N. for 400 miles, and is the most eastern chain that intersects the country to the S. of the Maranon. A fourth chain runs N.W. from above the source of the Paucartambo, immediately to the W. of that stream, dividing it course from that of the Vilcamayo, and reaching as far as Tarma near the source of the Perene, a distance of 500 miles direct. A fifth range runs E. from the source of the Perene, or river of Tarma, and the heights of Reyes, as far as the junction of the Beni and Apurimac; it thence directs its course 180 miles N., along the banks of the latter stream, as far as the heights of San Carlos near its confluence with the Pachitea. A sixth ridge passes between the Guallaga, on the W. and the Pachitea and other tributary streams of the Maranon, on the E. This last range, 400 miles in extent from N. to S., is called the *Montana Real*, or the 'Royal Mountains,' by the Spaniards, and lies immediately to the W. of the Pampas del San Sacramento, which when viewed from this last ridge appears as level as the ocean.

Plains.] Exclusive of Peru proper—which is merely a narrow stripe bounded by the Andes and the sea—and also of the various chains of mountains which run either parallel or in opposite directions to the Andes, and which contain between them broad and extensive valleys watered by gigantic streams, the tract under discussion contains immense plains or *pampas* as they are denominated by the Spaniards, extending from Montana Real as far E. as the Portuguese frontier, 600 miles in direct distance, and in some places of equal breadth from S. to N. The Maranon rolls its mighty stream through the centre of this continental steppe. These plains are so abundantly watered, that they are everywhere fertile in the highest degree, and clothed with immense and impenetrable forests, especially on the banks of the rivers, which intersect them in every direction. "Accustomed," says Condamine, "during seven years, to mountains wrapt in clouds, I was lost in admiration, at the wide circle embraced by the eye, when I left the *pongo*, or jaws of the mountains, where the Tunguragua enters the plains. No other boundary was presented to view, save where the hills of Pongo—soon to disappear—raised themselves to chequer the constant monotony of the scene. To the crowd of varying objects which diversify the cultured fields of Quito, and which still presented themselves to the fancy, succeeded the most uniform contrast, the whole that was to be seen being verdure and water, for the earth is so thickly covered with tufted plants and bushes, that it is trod, but not perceived: to find a barren space, though but a foot square, requiring a world of toil." Below Borja, and 400 or 500 leagues beyond it, on sailing down the river, a stone, nay, a pebble, is as rare as a diamond. The savages of these plains have indeed no conception of stones; and when, on visiting Borja, they first perceive them, they collect them together, and load themselves with the precious burden, till beginning to notice their abundance, they finally disregard and throw them away. The most noted of the plains watered by the Maranon, is the *Pampas del San Sacramento*, or 'Steppe of the Holy Sacrament.' This absurd appellation was bestowed on this level tract, because it was discovered on the feast of Corpus Christi, by some of the Indian converts belonging to the missions, in 1726. This steppe is not entirely level, being considerably diversified with mountains and valleys: it contains upwards of 60,000 square miles, and is capable of supporting 5,000,000 inhabitants. It has the Guallaga, from which it is separated by the Montana Real, on the W., the Maranon on the E., the Tunguragua on the N., and the Pozuzo and Mayro on the S. "A feeling of regret," says the author of memoirs of General Miller when speaking of the Pampas to the N.W. of Buenos Ayres on the road from thence to Potosi, "arises involuntarily in the mind of an Englishman as he contemplates the fertile tracts chiefly tenanted by beasts and birds, whilst his own country swarms with industrious poor, willing to work, but reduced to misery for want of steady employment. No man should be advised to leave his home so long as he can get an honest livelihood; but when he must starve or steal, emigration to proper spots in these savannahs would be a salutary change. The sober and industrious would, in a few years, become persons of property *in land* and *in cattle*, though without much ready money. Many sorts of produce would be raised which are now almost unknown. Bread is not to be procured in the part of the Pampas now spoken of: and such is the listlessness of the inhabitants in this respect, that they are contented to subsist upon beef and salt, with a little *mate* and the solace of a cigar, rather than undergo the toil of cultivation. The bounties of nature are disregarded, and the *gauchos* live wretchedly, if we measure their enjoyments by the European standard; whereas, if they laboured three days out of the seven, it would be sufficient to procure them bread and vegetables in as great abundance as they now obtain meat. *The axiom that idleness is the parent of vice does not hold good to the same degree in the interior of the Pampas.* In Europe, a lazy pennyless man resorts to illegal means for sustenance; but in the Pampas meat is so plentiful, that it is never given or received as a favour. A stranger has only to seat himself in any house he chooses to enter, and he is sure to be made welcome to family fare. The usual courtesies are exchanged, but no invitation is necessary or expected. Indeed, to give one, would be to break through the understood customs of the country."

Rivers.] The streams which descend from the western side of the Andes to the Pacific, being generally small, and of short course, are of little importance in general geography. Those which descend from their eastern sides chiefly claim the attention of general readers; but as, in our introductory article to South America, we have described the course of the noble Maranon, and its tributaries, forming the river system of this state, we shall not now return to the subject.

Lakes.] No lakes of such importance as to claim description occur in this country. They are the following, namely: *Lauri*, *Vilque*, *Villafro*, *Chincay*, *Chinquiacoba*, and the great *Cocama* near the mouth of the Guallaga. The lake of Rogagado may be regarded as a central lake, connecting the Beni with the Maranon and Madeira; it now belongs, however, to the republic of Bolivia. The lake of *Parinacocha* lies on the western slope of the Andes of Huando; and is the source of the Ocono which runs thence to the Pacific. The appellation *Cocha*, in Peruvian, signifies a lake.

CHAP. III.—CLIMATE—SOIL AND PRODUCTIONS.

In the equatorial region the blue sky has a much deeper tint than in the temperate zone,—the nights are resplendent,—and the vault of heaven, exhibiting in succession the whole of the constellations, appears studded with fixed stars, which shine like planets with a clear and steady light. In the upper regions of the atmosphere, the attenuated air reflects only a dark azure. The cyanometer, which at Paris marked 10 degrees, indicated 23 near the shores of Cumana, and 46 on the heights of the Andes. So transparent is the air of those climates, that in the elevated uplands of the Andes, one may distinguish with the naked eye, the *poucho*, or white mantle of a person on horseback, at the distance of 17 miles. In the vicinity of the Andes—according to Humboldt—large clouds seldom rise higher than 10,000 or 12,000 feet; but small, white, or fleecy clouds, which are called *sheep* by the inhabitants, are often observed floating at a height of 25,000 feet. These mountains are moistened with perpetual dews. Hail and snow fall, in certain seasons of the year, at an elevation of 12,000 feet; but at that of 10,000 feet, hail appears accompanied with thunder. Among the lower valleys, terrible storms of thunder, with torrents of rain, are frequent during the night.

The difference of temperature between that of the coast, and the country east of the Andes, is considerable. On the coast, or what is denominated Lower Peru, the temperature is considerably diminished by the perpetual cloudiness of the sky, and by a strong sea current setting in from Cape Horn. The mean daily temperature is from 68° to 73° of Fahrenheit, and that of the night from 51° to 62°. The mean heat of Callao, the port of Lima, is stated by Humboldt not to exceed 60° of Fahrenheit; he has seen the thermometer on the sea-shore, in 12° 2′ S. lat., as low as 55° of Fahrenheit. The temperature of the coast he states to have been at 70°, and that of the sea at 61°, in the month of October,—answering to our April. At Lima, the thermometer at noon is never observed in winter below 60°, and seldom in summer rises above 85° of Fahrenheit. The hottest day ever known in Lima was in February, 1791, answering to our August, when the thermometer rose to 96°. The situation of Lower Peru, placed between the cooling temperature of the sea, and the refrigerating influence of the lofty Andes which stop the passage of the westerly winds to the east, and which of course having deposited their humidity on their western slopes, return comparatively dry, cold, and rarified, is another reason perhaps of the coolness and dryness of its temperature. The wind which blows from the Atlantic, on the east, over the vast plains watered *by the Maranon and its accessory streams, is arrested in its progress to the Pacific, or coast of Peru, by the soaring summits of the Andes, and never passes the chain, and consequently clouds accumulate on their eastern side. A focus of heat and suction is produced by the rays of the sun shining vertically on the expanded tract east of the Andes—which is the broadest part of South America—for six months of the year; and the S.W. wind climbing up the Andes, comes in contact with that from the Atlantic, and contributes to stop its passage. The two opposite winds clashing against each other, rise together into the higher regions, where they are condensed and bent into other currents, which slide off, or descend again into the middle or lower regions.[1]

The clouds accumulated on the eastern side of the Andes dissolve in rain and vapour, accompanied with lightning and thunder. On the western side, from the bay of Guayaquil to Attacames—a space of 1,470 miles in direct distance—rain never falls, and thunder and storms are unknown. The houses at Lima and Arica may be said to have no roofs, being only covered with mats, and a light sprinkling of ashes, to absorb the dews of the night. At Lima, spring begins with December, winter with July, summer in February, and autumn in May. The sierras, or high table-land between the different ranges of the Andine ridges, present a more fertile aspect; and from their height of 10,000 feet above the sea, enjoy a different climate. While the low lands are dry and barren, except on the sides of the water courses, the uplands may be said to enjoy a perpetual spring united with a perpetual autumn. The ferocious animals and serpents seek warmer abodes, and do not incommode this earthly paradise: which, however—for Providence balances advantages—stands on an insidious soil, on an arch of no great solidity, while, in the extensive and tremendous void beneath, are stored instruments of sudden destruction, sulphur, subterraneous fires and waters, and all the terrible materials of earthquakes and volcanoes. The fields are perpetually verdant; all the grains, wheat in particular, wave in golden harvests; and the fruits of Europe blush amidst those of the torrid zone. An equal warmth, about 14° or 15° of Reaumur, diffuses health and vegetation: there is a perpetual equinox; and the temperature remains nearly the same,—the seasons being only distinguished by the rains, which fall from November to May, as in the eastern forests that skirt the Andes. The high ridges themselves are invested with perpetual snow, and eternal winter reigns on their summits. The climate of the extensive plains to the east of the Andes is warm and humid; but the heat is not so great as might be expected in regions lying directly under the line, as the eternal and impenetrable forests which clothe them, prevent the rays of the sun from penetrating the ground, and at the same time add to the humidity of the air.

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[1] It is accordingly observed, that the eastern winds so seldom reach Peru and Chili, that there are no hurricanes from that quarter on record, except one, which occurred in 1633.

Peru, therefore, may be said to have four climates, namely, that of the coast, or Low Peru, constantly dry and temperate,—that of the sierras, mild, moderately humid, and variable,—that of the Andes, piercingly cold,—and that of the pampas, warm, and excessively humid. The excessive humidity of these latter, joined with the immense tract of country watered by the Maranon and its subsidiary streams, contributes to render the Maranon such a mighty river. The climate of the sierras is the most healthy perhaps in the world, if we are to judge from the longevity of its inhabitants. In the province of Caxamarca, containing 70,000 persons, there were 8 persons alive in 1792, whose respective ages were 114, 117, 121, 131, 132, 135, 141, and 147; and in the same province, a Spaniard died in 1765, aged 144 years, 7 months, and 5 days, leaving 800 lineal descendants. The plain of Caxamarca is elevated 9,382 feet above the level of the sea, and produces crops of barley; but the climate of the pampas is far from being healthy. The warmth and excessive humidity render them almost uninhabitable; and even the few Indian tribes on the rivers rarely see a man of the age of 50.

Soil, &c.] From the almost total sterility of the coast and difficulty of communication with the interior, on account of the mountains that skirt the coast, and the comparative want of roads, and canals of irrigation to water the parched soil, agriculture is, generally speaking, in a wretched state in Peru. Except in the uplands, there is little fertile soil; these uplands, however, are not extensive tracts like those of Mexico; but are everywhere intersected by the quebradas, or breaks, common to this elevated region. So languid and backward is agriculture on the coast, that Lima, and many other towns along the shore, depend on Chili for their provisions. This has been the case ever since the great earthquake of 1693, which was followed by such sterility of the valleys of Lower Peru, that the people ceased in many places to cultivate them; and though the country has in a great measure recovered its former fertility, it still remains uncultivated, and the maritime places are still supplied with provisions by importation. These physical disadvantages might in some measure be corrected by an active and industrious population; but in the present state of the population, the want of a market for productions arising from the difficulty of land-carriage, the expense of a voyage round Cape Horn, and the possession of the navigation of the Maranon by the Portuguese, any hopes of a rapid improvement of agriculture can scarcely be entertained. The want of roads, bridges, and canals, too, renders it difficult to transport bulky articles from one place to another; and there are no middle-men in Peru, who buy in one market to sell in another. Thus one district may suffer great want, while another is overwhelmed under the pressure of its abundance. There are not even carts and waggons to convey commodities, or any other means of transporting them but on the backs of mules; and the gangs of mules employed for that purpose are compelled, by the want of roads, to travel over the fields, where they trample under foot and devour the corn, and destroy the fences. The court of Spain offered every encouragement for the exportation of sheep-wool from Peru, but without success, for the coarse wool of Peru costs so much in inland carriage and freight, that, when brought to Cadiz, it could not be sold for the same price as the fine Merino wool of Segovia. The vicuna-wool, on account of its scarcity and superior fineness, is the only sort of Peruvian wool which can bear the charges of carriage to Europe. Even though the population were to migrate from the coast, and—like the population of the United States—to condense themselves gradually from the eastern slope of the Andes to the plains of the Maranon, it would be productive of little benefit to them as far as concerns the exportation of their superfluous produce, as long as the Maranon is for more than half of its course a Portuguese river. The Anglo-Americans have the complete possession of the whole course of the Missouri, and all its navigable tributaries, and consequently have a free passage to the markets of Europe for their agricultural produce; but the Peruvians are in a quite different predicament, no other passage being left them for commercial intercourse, but the tedious one of Cape Horn, or the no less tedious one across from Lima to Buenos Ayres,—a journey of 3,000 miles. Even though they had possession of the navigation of the Maranon, and allowing that agricultural produce could be exported from Lima to Europe in three months by means of it, yet a return voyage could not be made in less than nine months, from thence, up a stream more than 4,000 miles inland, unless steam-boats were adopted. The Spanish colonists, besides, have not those migratory habits so common in the United States, nor are they possessed of the same persevering and industrious dispositions. Thus situated, Peru is not likely speedily to improve either in population or in agriculture. The best that can be done in its present situation, is to open up, as speedily as possible, such facilities of communication with the interior as the nature of the intervening mountains will permit, by making good carriage-roads, and constructing bridges, especially on the points where the navigable parts of the streams, running in opposite directions, approach nearest each other. Till such means of facilitating the communication between the interior and the coast, and till its mineral productions are better explored and its mines improved, Peru will not be a prosperous state. In the beautiful plain of Caxamarca, on the eastern slope of the Andes, watered by the rivers Mascow and Utesco, prodigious crops of barley and wheat are raised, the latter yielding from 18 to 20 for 1. The agricultural productions might perhaps be increased, could the Indians be persuaded to alter the ancient mode of agriculture which remains the same amongst them as in the days of the Incas. They are so easily fed and clothed—a little maize and a few roots being their principal food—that it is difficult to find motives to influence their exertions.

Vegetable Productions.] Cotton is found in great abundance, in a wild state, in the Montana Real,—on the Guallaga, in S. lat. 7°,—and on the banks of the Maranon. Lint and flax are not unknown in Peru; but the Indians gather the seeds alone, to make a kind of beer, which they call *chica*, while the precious stems are left to perish.

In the southern parts of Peru, the cacao-tree is so abundant, that no toil is requisite, except to gather the fruit, which is sold at the lowest price. In the Montana Real, the cacao is even esteemed superior to that of Guayaquil; but only a small quantity is bought, which is consumed by the rich people at Lima. The distance and difficulty of the roads from Jaen, and the missions of Caxamarquillo, Chachapoyos, and Mojos, where it is chiefly gathered, are the great obstacles. There is a species of Cochineal produced in this country, called by the Creoles *tinte magno,* and pronounced by Estalla to be superior to that of Oaxaca, which is very abundant in some provinces, but is only used by the Indians in their rustic manufactures. The coffee-tree abounds in Lamas, Guanuco, and other mountainous districts; and though inferior to that of Mocha, is equal to that of Martinique. The cinnamon of the Montana Real, though superior in strength to that of Ceylon, is not so valuable, on account of its transuding a resinous and disagreeable juice,—a defect which might perhaps be remedied by proper attention and industry. The Peruvian pimento is excessively strong, but not so pleasant as that of Asia.

The botany of the country to the east of the Andes is not yet known to European science; Humboldt and Bonpland did not explore the banks of the Maranon as they did those of the Oroonoko. It is probable, however, that as both rivers roll through parallel latitudes and similar plains, the botanical productions of both will be similar. Many herbs, both vulnerary and medicinal, and a great variety of aromatic balsams, oils, and gums distilled from the trees, are produced here. Trees and shrubs which yield seven differents of wax, are known in the Montana Real, Chachapoya, and Piura.

The Montana Real, according to the Peruvian Mercury, is a new world, and a real paradise. On the shores of its majestic streams, and amid the perpetual verdure of its forests, there is no reason to envy the Elysian fields. The almonds of Chachapoyas,—the silk webs spun by the spiders, —and the large carmine-spiders used as ornaments by the women,—the ginger of the Montana Real,—the balsam of Copayba, produced also in the Montana,—the *culen*, of valuable service in indigestion, and the *carana*, in rheumatisms,—the copal gum,—the *ceybo*, producing a vegetable wool,—and the oblong nutmeg of the Montana,—are all extolled by Lequando, one of the authors of the Peruvian Mercury.

In the description of Peru, Estalla enumerates the cedar, the olive, the wild orange, the incorruptible *algorob*, the palm, the willow, the *guayacan*, whose wood is hard and odorous, and many other kinds of trees which—having only Peruvian appellations—it would be useless to recapitulate On the coast and western slopes of the Andes are produced the cabbage-palm, the cocoa-nut, the chocolate-nut, the cotton-shrub, the pine-apple, the *canno-anomum*, turmeric, plantain, and sugar-cane. The *cardana oliodoro* is a large tree remarkable for the strong smell of garlic emitted from its leaves and fresh wood. The *coffea racemosis* is found in the numerous groves of the interior, and its berries are applied to the same use as the cultivated species. The large flowered jessamine and *datura arborea* diffuse their evening-fragrance round the vicinity of Lima; and, braided in the hair of the women, give and receive a reciprocal charm. No less than 24 species of pepper, and five or six of capsicum, are reckoned natives of Peru; besides several kinds of solanum, of which the love-apple and the potatoe are best known and most esteemed. Tobacco and jalap abound in the groves at the foot of the Andes; and many of the ornamental flowers of our British gardens and greenhouses, as the singular and beautiful *calceolaria*, the resplendent *salvia longiflora*, the graceful *nasturtium*, and the simple *nolana prostrata*, are indebted to Peru for their origin.

The immense forests which clothe the maritime plains, and those on the east of the Andes, indicate that the country has been always thinly peopled. These have their peculiar aspect, consisting of acacias and mangoes spreading their fantastic stems and roots along the shore, brooms and ferns in prodigious variety, and tall aloes and other succulent plants. The *ferula*, or gigantic fennel, grows to a surprising size, and affords a wood four or five times lighter than the lightest pine, and yet of considerable strength. At 7 or 8 leagues' distance from the coast, the trees increase in size, and are often clothed with parasitical plants attached by enormous creepers; while the voids are filled with thorny brambles, sometimes from 20 to 30 feet high.

Of the numerous shrubs which clothe the lofty uplands of the Andes, the different species of *cinchonas*, or the salutary Peruvian bark, are the chief. These are scattered along the skirts of the Andes, over an extent of 2,000 miles, at an elevation of from 2,800 to 9,500 feet, and therefore exposed to great variety of climate. This precious shrub forms one continued forest on the eastern declivity of the Andes, as far as Jaen and the hills above the Tunguragua. The *caoutchuc*, or common elastic gum, vulgarly denominated Indian rubber, is procured from the inspissated juice of a variety of different vegetables, as the *ficus*, the *hevea*, the *lobelia*, the *castillea*, and several species of the *euphorbium*. The *wintera* and *escallonia* species of shrubs occur at an altitude of from 9,200 feet to 10,800 feet, and form scrubby bushes in the cold and moist climate of the paramos and punas. Beyond the elevation of 10,500 feet, arborescent vegetables disappear. The Alpine plants occupy an elevation of from 6,500 to 13,500 feet. There grow the *gentiana*, the *stachliana*, and the *espeletia fraelxon*, which form with their hairy covering a shelter for the shivering Indians when benighted in those upland regions. The tree ferns range at a height of from 1,500 to 5,000 feet. In the spaces between the altitudes of 9,800 and 13,000 feet, potatoes and the *tropœlum esculentum*, are generally cultivated.[2]

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[2] BOTANICAL GEOGRAPHY.

Highest limit of phænogamous plants	15,160 feet.
Do. Alpine do. in the Andes of Quito	13,500
Do. dwarf pines do. do.	13,000
Do. solanum tuberosum, or potatoe plant	13,000
Inferior limit of the cultivation of do. do.	9,800
Superior limit of trees in the Andes of Quito	11,625
Do. of the ericineæ, or busy plants	11,306
Do. of wheat in do.	10,800
Do. of arborescent vegetables	10,500
Do. of juniper and other plants	10,000
Inferior limit of cultivation of the potatoe root	9,800
Superior limit of the cinchona, or Jesuits' bark	9,500
Inferior limit of trees in the Andes	9,200
N.B. These are the wintera and escallonia.	
Superior limit of oaks in do. do.	9,200
Do. of large trees in do. do.	9,000
Do. of wild cochineal in the mountains of Riobamba	9,513
Do. of the cinchona of Loja	8,300
Inferior limit of do.	6,250
Lowest limit of the cinchonas	2,300
Superior limit of the lobeliæ, styrax, and other plants	9,000
Inferior limit of do.	6,000
Do. of Alpine plants	6,500
Superior limit of the Erythroxylum Peruvianum	6,200
Inferior limit of do. do.	4,300

ZOOLOGY.] The quadrupeds of Peru are much the same as those of Colombia; but a few are peculiar to Peru, and therefore deserve a description. Of these, the principal is the *glama*, or *lama*, a species of small camel, of which no less than five kinds are now allowed by naturalists to exist in South America, namely, the *glama*, the *guanaco*, the *moromoro*, (or *chilihuque* of the Chilese), the *vicuna*, and the *paco* or *alpaco*. These last are also denominated in Spanish America, *carneros de la tierra*, or 'native sheep.'

The Glama.] The glama is a native of Peru, and was described by several of the old naturalists, under the appellation of *ovis Peruvianis*. When wild, it inhabits the highest and coldest parts of the mountains, feeding in numerous herds, and flying with great rapidity at the approach of mankind. It was completely subdued and domesticated by the ancient Peruvians, being the only beast of burden among that people, to whom it answered the same purposes as the camel and dromedary of eastern regions. Its general size is that of a stag, being four feet high and six feet long; the neck is like that of the camel, and the head small. Its general colour is a light ferruginous brown, pale or whitish in the under parts. The tail is short, and full of hair. In the domesticated state, the hair of the glama is smoother and closer than in the wild animal. It has many of the habits of the camel, striking with his feet when angry, and ejecting from his mouth at the same time a quantity of saliva said to be slightly acrimonious. When resting, it leans on its breast like a camel, which it resembles also in the faculty of abstaining for a long time from drink, sometimes even four or five days. Its flesh is said to resemble mutton in flavour. Its pace is slow, seldom travelling more than 16 miles a-day; but it is sure-footed, descends precipices, and journeys with safety amongst the most craggy mountains, where even man can scarcely accompany it. It is a most useful beast of burden, and is capable of carrying a load of 200 lbs. weight, in the most rugged and dangerous roads.

The Guanaco.] The *guanaco* is found in mountainous regions like the glama, and is larger than it, growing sometimes to the size of a large horse. Though more nearly allied to the glama than any other animal, it is said never to associate with it. Its colour is tawny, and white beneath; the back is pretty much arched, and the neck long. This species is not covered with wool, like the glama or vicuna, but with fine long hair. According to Molina and Dobrezhoffer, it has a hunch on its back, like the camel. In height it is said to be generally about four feet three inches, and seven feet long from the nose to the tail. There is said to be another species of the guanaco, six feet long and five feet high, with a neck as white as that of a swan, the rest of the body reddish or purplish, with feet like those of the camel.

The Chilihuque.] The *chilihuque*, or camel of Arauco, is a native both of Peru and Chili, and is said to measure six feet in length, and four in height; it is covered with woolly hair, and in its general appearance resembles a ram. The ears are pendulous; the neck and legs long; and the

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Superior limit of the wax palm on the pass of Quindiu .	9,000
Inferior limit of do. do. . . .	6,000
Superior limit of sensitive plants in the Andes	6,000
Inferior limit of oaks in the do.	5,500
Superior limit of tree ferns in the do.	5,000

The above table is from Humboldt, and the measures have been reduced to English feet. It is applicable however only to the mountainous tracts and upland plains, to the N. of Lima, in 12° S. lat., the most southern points of Humboldt's travels.

tail like that of a sheep, but shorter in proportion. The wool is very soft, and the colour is said to vary in different individuals, being either brown, black, ash-coloured, or white. It was formerly employed as a beast of burthen, and sometimes in ploughing, by the ancient Chilese: its wool was also used for cloth, but has given way to European wool, as being stronger and more serviceable.

The Vicuna.] The *vicuna* is an elegant little wild animal, of the size and shape of a tame goat, except that the neck is longer, sometimes 20 inches, the head round and without horns, the ears small and straight, the muzzle short and beardless, and the feet higher. The wool is extremely fine, and of a fawn colour, resembling that of a dried rose, the shade is so permanent, as not in the least to be changed, when it is manufactured. In addition to its extreme fineness, the wool is also remarkably warm, and at the same time most beautifully silky and light. The wool on the breast is three inches long, but on the other parts not more than an inch. The cloth manufactured from this wool is said to be too warm for common use, unless made peculiarly thin.

The Paco.] The *paco*—formerly confounded with the glama and vicuna—inhabits the same regions, associating in large herds; it is said to be of a more robust make than the vicuna, and is covered with long wool, which in the wild animals, is of a dull purple colour, but, in the domesticated state, is varied with black, white, and red; the belly is white. These animals are kept in vast numbers by the Peruvians, for the sake of their wool, from which excellent cloth is made. The beautiful furs which clothe many animals of the Montana Real will probably, at no distant period, become an article of commerce. That of the *pinche*, an animal which dwells on the banks of the Maranon, is the most esteemed; his locks are of a purple colour fringed with specks of gold, while the rest of his body is harmoniously spotted with gold, green, yellow, and white.

The Pecari.] The *pecari*, or *tajacou*, is the only animal of the hog kind indigenous in Peru, or even in all America. It is considerably smaller than the common hog, and of a thick compact form, wholly and thickly covered on the upper parts, with very strong dark brown, or blackish bristles, each marked by several yellowish white rings, so that the colour of the whole seems speckled; the head is rather large, the snout long, ears short and upright, and the belly nearly naked. It has no tail; and at the lower part of the back, a little beyond the rump, is a glandular orifice, surrounded by strong bristles. A strong scented fluid exudes from this *orifice. The pecari is a fierce and even dangerous animal; though of the gregarious kind, it feeds on vegetable and animal food, and is a great enemy to snakes and other reptiles.*

The Aï.] The *aï* is an inhabitant of the southern regions of the New Continent, from Brazil as far as Mexico. The application of the term *sloth* to these animals, and to the other species of *bradypus*, is not, strictly speaking, perfectly correct; their extraordinary slowness of motion is not the effect of indolence or sloth, it is a part of the organization of the animal, an essential of its nature, and it is no more in his power to accelerate his movements, than it is permitted to the hare to creep, or the stag to crawl; it is in vain to urge, to stimulate, or to strike him; nothing in the world can quicken him. Leaning upon one side, he raises one of his fore-legs, makes it describe a long arch, and then lets it fall again with the most extreme indifference; afterwards, as if fatigued by such an amazing effort, the animal rests on the side where the leg was advanced with so much difficulty, and in a few moments puts the other in motion in a similar manner. The hinder part of the body follows with equal slowness. It has been calculated that the aï would employ an entire day to make fifty steps; from this it follows, that, supposing it to proceed without interruption, it would take nearly a month to travel a single mile. The tenacity in the aï of life approximates it to the reptile tribe; this is so great, that on one of these animals being opened and dissected, he did not die immediately, but the palpitation of the heart continued for a considerable time after the operation.

A species of wild deer, called *venados*, abounds in the northern provinces; and its skin has become, at Lambayeque and Piura, a new article of commerce, being found excellent for shoes.

The animal called the *danta*, or *gran bestia*, (tapyr), is known in Jaen and Caxamarca, and somewhat resembles a cow, though seldom larger than an ass. It is a gregarious animal, of harmless manners; and when pursued, endeavours to save itself by plunging into some river, swimming with great facility, and continuing long under water like the hippopotamus; its teeth are very numerous.

The mountain-cat abounds in the forest, always hunting in the night, its eyes shining like fire, and even attacking men unawares.

There are several animals apparently of the fox-species; one of which, called *hedionda*, will, when chased, diffuse so nauseous a smell as to compel the hunter to retreat with great trepidation. The most ferocious bears are those of Piura.

The domestic animals of Europe, as horses, mules, sheep, and cows, have multiplied amazingly since their introduction into Peru, especially the horses. which being turned into the woods after the completion of the conquest, multiplied so quickly that they are now almost everywhere to be found in a wild state, and sell for very little. The sheep also multiplied so fast, that in ten years, a sheep was sold for ten crowns, which previously sold for 50 crowns. As to domestic fowls of the gallinaceous kind, there were neither cocks, hens, or turkeys, in Peru, till the two former were introduced from Europe, and the latter from Mexico. It is only within these 50 years, that hens have been seasoned to the climate in the high table-land of Cusco; before that period, all the chickens perished immediately after hatching. Even the savage Indians have now procured and domesticated them, as Humboldt saw them in some huts of wild Indians near Tomipenda, on the Tunguragua, where they had established themselves at Tatumbero, between the cataract of Yaraquisa and Patarumi.

The Condor.] Of Peruvian birds—and indeed of all birds, if we adopt the authority of Molina and Dobrizhoffer—the *condor* deserves the preeminence, for size and strength, combined with rapidity of flight and rapacity. Its colour is black, with a mixture of white on the wing-feathers; on the head is a rising callous crest; and on each side of the neck, several small wattles of a semicircular form and a bluish colour. The throat, to some distance down the breast, is bare and red. The beak four inches long; large, aquiline; black at the base, white towards the point.[3] The chief feathers of the wing are two feet nine inches in length, and four lines in diameter; the eyes are black with an iris of reddish brown. The body greatly exceeds that of the royal eagle. According to Dobrizhoffer, the condor is 16 feet across, when its wings are expanded; and Molina states that he has seen the condor measure upwards of 14 feet from wing to wing: but according to Humboldt, it is not larger in size than the *læmmer geyer*, or vulture of the Alps, in Europe,—its extreme length being only 3½ feet from beak to tail, and 9 feet across the wings. There is no other way of reconciling such discordant statements of eye-witnesses, but either of supposing that the Peruvian condor, is less than that of Chili and Para, or that the condor mentioned by Humboldt was a young one, and had not arrived at its full growth. In the wild solitudes of the majestic Andes, this ferocious bird fixes its gloomy abode, and makes them echo with its horrific scream. It lays two white eggs larger than those of a turkey. It pursues the small deer of the Andes, and commits very considerable havoc among the sheep and heifers. Estimating from very probable data, this bird skims whole hours, at the height of four miles perpendicular;[4] and its power of wing must be prodigious, and its pliancy of organs most astonishing, since in an instant it can dart from this immense elevation to the low and sultry shores of the ocean.

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[3] That Dobrizhoffer and Molina are both pretty correct in their account of its size, is confirmed by Sir Edmund Temple, who shot one near the post of La Cueva, on the great road from Potosi to Salta. It was so satiated with its repast on the carcase of a horse, as to suffer Temple to approach within pistol-shot before it rose to take flight, and was accordingly shot on the spot. It measured 10 feet from wing to wing, and the longest feather, when pulled out, was 3 feet long. The people of the post house assured Temple, that the bird was quite a *chicken!*

The Golden Trogon.] "Of the splendour of this rare and remarkable species," says Wilson, "neither description nor delineation can convey any adequate idea. The greater proportion of its plumage is apparently composed of burnished gold. The head ornamented by a brilliant crest of decomposed barbs, the wing-coverts falling in flakes of golden green over the deep purplish black of the primary and secondary quill feathers, the rich carmine of the lower parts bestowing a warmth and depth of effect which no Venetian painter ever equalled, and the long, waving, and highly metallic feathers of the tail coverts, extending more than twice the length of the whole body, present a combination of beauty, probably unexampled among the feathered tribes. We unfortunately know little or nothing of the natural history of this beautiful bird. It is greatly prized by the native tribes of those countries in which it occurs, who make use of its skin as an ornament of dress, when clothed in more than usual pomp, 'with feathered cincture bright.' The long feathers of the tail-coverts are also employed in the head-gear of the Peruvian damsels of the highest rank. It is considered as a gift worthy the acceptance of a king, and is occasionally presented as a mark of honour to the envoy of a foreign state. The female of this bird is not yet known to naturalists; from which it may be inferred, that her plumage is less magnificent than that of the male, and that being, consequently, held in lower estimation, she is less frequently sought for or obtained."

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[4] "The region which may be considered as the habitual mode of the condor, begins at a height equal to that of Etna, and comprehends strata of air at an elevation of from 9,600 to 18,000 feet above the level of the sea. The largest individuals that are met with in the chain of the Andes of Quito, are about fourteen feet from the tip of one wing to that of the other, and the smallest only eight. From these dimensions, and from the visual angle under which this bird sometimes appears perpendicularly above our heads, it may be judged to what a prodigious height it rises when the sky is clear. When seen, for example, under an angle of four minutes, it must be at a perpendicular distance of 6,876 feet. The cave of Antisana, situated opposite the mountain of Chussulonga, and from which we measured the bird soaring, is situated at a height of 13,958 feet above the level of the Pacific Ocean. Thus, the absolute height which the condor attained was 20,684 feet, an elevation at which the barometer scarcely rises to 12 inches. It is a somewhat remarkable physiological phenomenon, that this bird, which for hours continues to fly about in regions where the air is so rarified, all at once descends to the edge of the sea, as along the western slope of the volcano of Pinchincha, and thus in a few minutes passes as it were through all the varieties of climate. At a height of 20,000 feet, the air cells of the condor, which are filled in the lower regions, must be inflated in an extraordinary manner. Sixty years ago Ulloa expressed his astonishment at the circumstance, that the vulture of the Andes could fly at a height where the mean pressure of the air is only 14 inches. At heights like these man in general finds himself reduced to a most painful state of debility. In the condor, on the contrary, the act of respiration appears to be performed with equal ease, in mediums where the pressure differs from 12 to 30 inches. Of all living beings, it is without doubt the one that can rise at will to the greatest distance from the earth's surface. I say, at will, because small insects are carried still higher by ascending currents. Probably the height which the condor attains is greater than that which we have found by the calculation mentioned above. I remember that on Cotopaxi, in the plain of Suniguaicu, covered with pumice, and elevated 13,578 feet above the level of the sea, I perceived the bird at such a height that it appeared like a black dot. The transparency of the air of mountains is so great under the equator, that, in the province of Quito, as I have elsewhere shown, the poncho or white mantle of a person on horseback is distinguishable at a horizontal distance of 84,032 feet."—*Edinburgh New Philosophical Journal.*

The smallest bird is the *pica flor*, or humming-bird, described at length in our account of Mexico. This diminutive bird, with one or two excep*tions, is peculiar to South America, and the species are extremely numerous, amounting to between 60 and 70. The least of all is the trochilus minimus*, measuring only an inch and a quarter from the tip of the bill to the end of the tail; it is of a gilded greenish brown colour above, and white beneath; the wings violet brown, and tail black. Water fowl abound beyond conception on the course of the Maranon; so that a voyager provided with the means of catching and killing animals, whether flesh, fish, or fowl, may navigate the stream without feeling want, provided he has no enemies to encounter. The beautiful flamingo frequents the lakes: and the brilliant feathers of the royal goose, do not save it from destruction, its flesh being excellent, as is that of the *bandurria*, another aquatic fowl.

Of insects, the silk-weaving spider is the most remarkable, and abounds in Jaen and Caxamarca; in which last province they are as large as crabs, and the teeth larger than those of a great rat. Among the insects peculiar to Peru, the silk-worm must not be forgotten. This species of silk-worm feeds on the *pacaw*, or *mimosa inga*, a tree common in Peru. Instead of forming several webs, they unite, when they are satiated, on a broad branch, or on the trunk, where they form a regular and beautiful web proportioned to their numbers. Having completed this cloth, which has great lustre, and such consistency that it is scarcely capable of decomposition, they arrange themselves into files, so as to form in the centre a powerful square, where each makes its cocoon of a coarse short silk, and becomes a chrysalis, before it transmigrates into a moth. Pineda, an eminent mineralogist in Peru, sent to the royal cabinet at Madrid, a piece of this native silk paper, about a yard and a half in length, the common form being elliptical.

As to reptiles, these are abundant in the plains and woods, especially those to the east of the Andes, where the warmth and excessive humidity give birth to immense numbers. Several elegant species of the boa constrictor, the largest but most harmless of the serpent tribe, are found in the humid plains of the Maranon. Sobreviela gravely informs us, that in the Steppes of the Holy Sacrament, there are serpents of the enormous and incredible length of 120 feet long, and 12 feet in circumference.

Of aquatic animals, the *manatee*, or river-cow is the most common, being found everywhere in the Maranon, from its source to its mouth. It cannot be strictly called an amphibious animal, never quitting the water; for instead of legs it has only large fins, one on each side of the body, near the shoulders, where it is largest. From the shoulders it retains its bigness for about two feet, then gradually lessens to the tail, which is flat; the udders of the female are under their fins. The skin, which is so hard as to resist a musket-bullet, is covered with short hairs, like soft bristles. There is another species of the manatee on the Marañon, called the oil river cow, its substance consisting almost wholly of fat, a single one yielding *nearly 100 gallons of oil. The* favourite food of the manatee is vegetables *and grasses growing on the banks, raising its* head above water for that purpose; *yet, though unable to move on* shore, it is obliged frequently *to rise for breath, as if it* were amphibious, and it is then harpooned by the Indians. *Their weight is usually* from 400 to 500 pounds.

CHAP. III.—MINES AND MINERALS.

Peru Proper being chiefly a mountainous country, its wealth consists principally in its mineral and metallic productions. The mountains of Peru abound in metallic wealth. They are interspersed with veins of gold, and with veins of silver ores, in which pieces of pure silver, solid copper, and lead-ore occur, frequently intermixed with white silver ore, and virgin-silver in threads. In many parts are rich veins of gold-ore in quartz, and gold is also obtained by washing the mud found in the beds of the rivers. The ores are extremely rich, yielding from 5 to 50 lbs. of silver for every hundred weight of ore; while the average produce of the Mexican mines is not above 3 or 4 ounces to the hundred weight. Though the mineral treasures of Peru have suffered a considerable diminution since the dismemberment of Potosi and the southern provinces, yet the amount of the coinage of Lima, which continues to equal if not exceed that of Potosi, clearly evinces the great opulence which still remains. From the extreme point of the district of Piura on the N. to that of Canches on the S., gold and silver follow the grand chain of the Andes. To enumerate the mineral products of all the districts of Peru would be tedious, we shall therefore subjoin an enumeration of the chief mines, abstracted from the Peruvian Mercury, as existing in the eight intendancies, in 1791, adding what additional information Humboldt has collected on this interesting subject:

1. Intendancy of Lima, with its dependency Guarochiri; gold mines, 4; silver, 131; copper, 4; silver-mines abandoned, 70.
2. Intendancy of Truxillo, with Chota its dependency; gold mines, 2; silver 134; abandoned, 164 silver, and one gold-mine.
3. Intendancy of Tarma, with its dependencies of Pasco and Huallanca; silver-mines, 227; abandoned silver-mines, 21; lead, 2, very productive.
4. Intendancy of Guamanga, including Lucanos; gold-mines, 60; silver 102; quicksilver, 1; abandoned, gold, 3; silver, 63.
5. Intendancy of Cusco, including Curahuasi; silver-mines, 19; all productive, none abandoned.
6. Intendancy of Arequipa, with its dependancy of Cailloma; 1 gold-mine; silver, 71; gold mines abandoned, 4; silver, 28.
7. Intendancy of Huantajaya, with its dependency of Tacna; gold, 1; silver, 20; abandoned gold-mines, 19; silver, 30.
8. Intendancy of Huancavelica, with its dependencies of Castro Vireyno, and Lircay, gold, 1 mine; quicksilver, 2; silver 80; lead, 10; abandoned, gold, 2; silver, 215.

The multiplicity of neglected silver mines is owing to their being inundated by water, which has gradually gained on them, so as completely to choke them. The total of mines in the viceroyalty of Peru, in 1791, wrought and unwrought, was as follows.

	Wrought.	*Not Wrought.*
Gold,	69	29
Silver,	784	588
Quicksilver,	4	
Copper,	4	
Lead,	12	
Total,	873	617
Not wrought	617	
General total,	*1490*	

The Peruvian gold partly comes from the districts of Pataz and Huailás, where it is extracted from veins of quartz traversing primitive rocks, and partly from *lavaderos,* or washing grounds, established on the banks of the Alto Maranon, in the district of Chachapoyas. The Incas drew immense quantities of gold from the plains of Curimayo, N.E. of the town of Caxamarca, at an elevation of more than 11,154 feet above the level of the sea. Considerable masses of gold have been found disseminated in branches and filaments, in veins of red and vitreous silver, at an elevation of more than 13,123 feet above the level of the sea. Father Feuillee says, that in 1709, he saw in the cabinet of the viceroy Don Antonio Portocaerero, a piece of gold ore, found by an Indian in a brook, weighing more than 33 lbs;—the upper part of this mass was much purer gold than the lower, being 22 carats, 2 grains, while the lower part was 17½ carats.

As in Mexico, the great body of metallic produce is obtained from a few mines in Peru. Nearly the whole silver is extracted from the great mines of Lauricocha, (commonly called the mines of *Pasco* and the *Cerro de Bombon*), *Gualgayoc* or *Chota,* and *Huantajaya.*

Mines of Lauricocha.] The mines of Lauricocha or Pasco which are the worst wrought in all Spanish America—were discovered in 1630, by an Indian shepherd, who having accidentally lighted a fire on the spot, was surprised at the melting of the silver in the subjacent soil. These mines annually furnish nearly 2,500,000 dollars.[5] The water, which is very abundant in these mines, is not drawn off by hydraulical wheels, or horse-baritels, as in Mexico, but by pumps moved by men; so that notwithstanding the small depth of the miserable excavations called pits and galleries, the drawing-off the water from the mines is excessively expensive. In one of the mines, the expense a few years since, amounted to more than a thousand dollars a-week. The metalliferous bed of Lauricocha, appears at the surface for a length of 15,747 feet, or very nearly three British miles, and a breadth of 7,217 feet. From 1792 to 1801, the number and weight of the silver smelted at Pasco, amounted to 13,276 ingots, 2,479,014 marks, value in British money £4,743,364, 10*s.* sterling; and from 1801 to 1803, 3,400,000 dollars: total in twelve years, 24,471,619 dollars, or £5,586,114, 10*s.* sterling; or averaging for twelve years, £458,842, 5*s.* sterling.

Mines of Chota.] The mines of *Gualgayoc* and *Micuipampa,* commonly called *Chota,* were only discovered in 1771, by a European Spaniard. Immense masses of vitreous silver have been found on the summit of Gualgayoc, which rises like a fortified castle in the midst of the plain to an elevation of 13,385 feet above the level of the sea; and at Fuentestiania, Cormolachi, and Pampa de la Navas. In this last plain, for more than half a square league, wherever the turf has been removed, sulphuretted silver has been extracted, and filaments of native silver adhere to the roots of the gramina. It is frequently found in masses, as if smelted portions of it had been poured upon a very soft soil. During the three first years, the mines of Gualgayoc yielded 170,900 marks of silver annually, or a total of 510,000 marks or 4,335,000 dollars; value in British money, £975,375 sterling, or £325,125 sterling annually. From 1774 to 1802, a period of 29 years, the mines of Gualgayoc furnished to the provincial treasury the sum of 1,912,327 marks of silver, or £3,661,938 sterling; averaging 67,193 marks, or £129,270 sterling annually. This sum added to the produce of the districts of Guamuchos and Conchucos, gives a total of £143,798, 4*s.* 8*d.* annually. In 1803, the produce of these mines was 504,000 dollars, or £115,650 sterling. They are richer in minerals than those of Potosi; more constant in their produce than those of Huantajaya; and easier to work than those of Lauricocha; and under an enlightened government the Cerro Gualgayoc would become another Potosi.

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[5] To form a just idea of the enormous mass of silver deposited by nature in the bowels of these calcareous mountains, at an elevation of more than 13,000 feet above the level of the ocean, it must be remembered that the bed of argentiferous oxide of iron of Lauricocha, has been uninterruptedly wrought since 1630; and that within the last 20 years, more than 5,000,000 marks of silver, or 42,500,000 dollars, or L.9,562,500 sterling, amounting to L.478,125 sterling annually, have been extracted from it, while the greatest part of the pits are not more than 98, and none of them 390 feet deep.

Mines of Huantajaya.] The mines of Huantajaya, surrounded with beds of rock-salt, are particularly celebrated for the great masses of native silver which they contain in a decomposed *gangue*, and furnish annually from 70,000 to 80,000 marks, or from 45,948 lbs. troy, to 52,505 lbs. troy; value in dollars, from 595,000 dollars to 680,000 dollars; or in British money, from £133,875 sterling to £153,000 sterling, annually. Muriate of conchoidal silver, sulphuretted silver, galena, with small grains, quartz, and carbonate of lime, accompany the native silver. These mines are near the shore, on a gentle elevation, in the district of Arica, and considerably to the south of that town. The vicinity is a desert entirely destitute of water. A project has been long entertained of carrying fresh water to it, for the use of the men and cattle; and water from the sea, for the amalgamation works. In 1758, and 1789, two masses of native silver were found in two of its mines, the one weighing 800 lbs. and the other 200 lbs.

Total produce of Gold and Silver.] From 1754 to 1772, the produce of gold and silver given into the mint at Lima, amounted to 6,102,139 marks of silver, and 129,080 marks of gold; being a total of 68,944,522 dollars, or £15,512,717 sterling, which on an average, is 3,830,000 dollars, or £861,750 annually. From 1772 to 1791, the quantity of silver amounted to 8,478,367 marks, and the gold to 80,846 marks: total of silver and gold, in dollars and pounds sterling, 85,434,849 dollars, or £19,222,840, 6*s.* 6*d.* sterling; averaging 4,496,000 dollars, or £1,009,350 sterling. In this latter period, the produce of the gold is more than one-third less than in the former period, while the produce of the silver has increased. From 1792 to 1797, the coinage amounted to 3,000,000 of dollars, or £6,750,000 sterling, averaging 6,000,000 dollars, or £1,350,000 sterling annually. From 1797 to 1801, the coinage amounted to 26,032,653 dollars, or £5,857,346, 7*s.* 6*d.* sterling, averaging 5,206,530 dollars, or £1,171,469, 5*s.* 6*d.* sterling, annually. The declension of the produce of this last period, was owing to the war with Great Britain, which impeded the importation of mercury for amalgamation, as also that of iron and steel from Europe. Humboldt is therefore inclined to calculate the mean produce of the gold and silver at 6,000,000 dollars annually; especially, as from 1790 to 1794 inclusive, the coinage amounted to 5,593,513 dollars annually; and from 1792 to 1797, to 6,000,000 dollars annually; and in 1799, 6,008,831 dollars. He however adopts 5,300,000 dollars as the mean annnal term of registered gold and silver in Peru, or £1,192,500 sterling; a sum which does not amount to one-fourth of the mineral produce of Mexico, the annual average of which is 23,000,000 dollars.

To this sum of Peruvian gold and silver, must be added the fraudulent exportation of the silver, or what is denominated unregistered produce, on which duty has not been paid. This exportation of silver is carried on to the east of the Andes by the Maranon, which great river connects two countries wherein a considerable disproportion prevails between the relative value of gold and silver. Brazil is almost as profitable a market for the silver of Peru, as China for that of Mexico. A fifth at least, if not a fourth, of all the silver extracted from the mines of Lauricocha and Gualgayoc, is exported in contraband, by way of Lamas and Chachapoyas, in descending the Maranon. This unregistered silver was estimated at 100,000 marks of fine silver, or 940,000 dollars, or £211,500 sterling annually; which added to 5,300,000 dollars adopted by Humboldt as the mean term of annual produce of gold and silver sent to the mint at Lima, makes the whole annual amount of gold and silver registered and smuggled, amount to 6,240,000 dollars, or £1,404,000 sterling. The total registered produce of all the Peruvian mines, since the conquest, is estimated by Humboldt at 662,219,609 dollars, or £151,247,162, 5*s.* sterling.[6] The quantity of fraudulent exportation, or unregistered produce, is estimated by Humboldt at 200,000,000 dollars, or £45,000,000 sterling, which added to 672,219,609 dollars, makes the total of all the precious metals extracted from the Peruvian mines, registered and unregistered, down to 1803, amount to 972,219,609 dollars, or £196,247,162, 5*s.* sterling. Allowing 6,240,000 dollars as the annual produce of 1804-5-6, it will make the whole amount to 991,939,609 dollars, or £200,684,162, 5*s.* sterling down to 1806, which is not half the sum of the Mexican gold and silver down to the same period, which amounts to £484,435,869, 9*s.* 6*d.* sterling.[7]

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[6] This sum is, by a prodigious mistake of arithmetical addition, swelled to 839,045,400 dollars, by making the produce of the mines of Choto. from 1774 to 1802, amount to 1[illegible],339,900 dollars, instead of 18,533,995 dollars, as given in his own table of the produce of these mines.—See Vol. III. p. 3[illegible]6, English Translation. Thus making the sum total of the metallic produce of Peru, from the conquest till 1803, 166,825,791 dollars more than the truth.

[7] In addition to the very luminous and satisfactory statement of Humboldt, Sir Edmund Temple has given us one apparently equally authentic, drawn up by Lamberto de Sierra, minister of finance and treasurer of the royal coffers in the imperial city of Potosi, in May, 1802, and dedicated by him to the celebrated Godoy, then at the acme of his power. This account has been extracted with great care, labour, and patience from not less than 246 royal books,—an operation, says the writer, which none of his predecessors had ever before attempted, and which, therefore, is worthy of credit.

In this precious document the statement of the wealth of Potosi commences in 1556, when the produce began to be annually registered, and the duties to be paid, and is carried down year by year successively to the 31st of December, 1800, a period of 246 years, which is again subdivided into three other periods, namely, from 1556 to 1578; from 1579 to 1735; and from 1736 to December, 1800, exactly, agreeable to Humboldt's division, with this only difference, that Humboldt's third period ends in December, 1789, as having no account of the royal duties paid from the 1st of January, 1790, to the 1st of January, 1804, he could not give it, but obtained the produce of that subsequent period from the records of the mint, whereas, in this document the duties for 11 successive years, from January 1790, to January 1801 are given.

This comparative inequality of metallic produce in Peru, is not owing to the relative scarce quantities of minerals in the bowels of the earth, but to the comparative thinness of the population,—to its having been worse governed than Mexico,—and to the enormous elevation of the deposits of

Table of the Three Periods.

Years.	*Duties in Dollars.*	*Produce in Dollars.*
1556 to 1578	9,802,257	49.011,285
1579 to 1735	129,509,939	611,256.349
1736 to 1800	18,618,927	163,682,874
	Totals, 157,931,123	823,950,508

If to this be added the unregistered produce of the 11 years preceding the epoch when the produce began to be registered namely, from 1545 to 1556, amounting, according to Humboldt's calculation, to 127,500,000, then the collective total from 1545, to December, 1800, will amount to 951,450,508 dollars, or 9,647,231 dollars less than Humboldt's statement.

But if the produce of the three years, from the 1st of January, 1801, to 1st January, 1804, be added to the amount specified in this document, and the calculated unregistered produce of the first 11 years, amounting, at an average of 24 years, to 3,285,710 dollars annually, then the whole sum of 256 years will be 961,306,638 dollars, thus presenting a difference of only 208,899 dollars more than Humboldt's statement, a surprising approximation in the two statements, when it is considered that they embrace the long period of 258 years, and which tends to strengthen our confidence in the veracity and accuracy of Humboldt's account of the metallic wealth of Potosi, as given above from Humboldt's Political Essay on New Spain, Vol. III. chap. XI. Temple is also of opinion, that not more than one-fourth of the actual produce of Potosi is given in the documents, whether of Humboldt or Lamberto, enormous as the registered produce is; and in Humboldt's opinion, more than one-third of the produce was never registered. The millions above specified are those only which actually paid in duties, and all the world knows the schemes practised and the exertions made to evade duties which, even under the most vigilant regulations, are frequently attended with success. The temptations to smuggle silver, were aided by the peculiar and unguarded nature of the country, and by the unreasonable excess of duties and the low price which the government paid for the mark of silver when carried to the mint. Such temptations were irresistible when it is considered that the French and Portuguese, according to Lamberto, paid from 11 to 14 dollars per mark of 8 ounces, whilst the proprietors only obtained 7½ dollars; this, with the duty of 21½ per cent that was evaded, made it a lucrative concern for the smugglers, and the extent to which it was carried on is altogether unknown. We must also take into account the prodigious quantity annually manufactured into articles of furniture, ornaments, and utensils of every kind that were to be seen in the churches, and in the houses of the rich, and in abundance in the houses of others; none of which paid duties, nor has there any account been kept of their value.

Lamberto says, that according to the produce of the mines of Potosi in his time, and the duties paid thereon, the crown should have received in proportion to their produce at former periods, an annual sum of from 4,000,000 to 5,000,000 of dollars, instead of the moderate quantity stated in his official tables. During the period of the glory of Potosi, the silver averaged at several periods 25, 50, 100, and even 500 marks of that metal to the caxon, without including *the great number of years when solid silver was cut with chisels out of the vita rica, or rich vein.* These statements completely set at rest the erroneous statements of the Abbe Raynal of the produce of Potosi. He commences the *royal fifths* upon the silver from the year 1545, that in which the mountain was discovered, when it is now well ascertained that these did not commence till 1556. He next says, that from 1564, the abundance of metals soon decreased, and states the decrease to have been between the years 1564 and 1585, the very period in which their increase commenced, when the 5th rose from 400,000 dollars to upwards of 1,000,000 annually. Raynal further says, that between 1505 and 1624, the royal fifths decreased still more by 3,000,000 of livres annually. Now this was the precise period when those duties were at their maximum height, and Lamberto confirms Humboldt's assertion, that the mining of Potosi never obtained so high a degree of splendour as from 1585 to 1606, when the fifth was 1,500,000 dollars annually; and when even for 35 successive years, or up to 1641, the average fifth was considerably above a million. The fifth in 1593 was 1,589,662 dollars, and it must be remembered, that at this period down till the year 1600, the dollar was 13½ rials value instead of 8 rials, and had been so from 1545. The registered produce alone, therefore, of that year, must have amounted to L.3,088,608 sterling, an enormous sum of money to be drawn from a single mountain in one year, and which has no parallel in the annals of mining.

Raynal finally affirms, that in 1763 the fifth did not exceed 1,361,682 livres. Now, two errors are here committed, the one is, that in 1763. the fifth was not levied, nor had for 27 years preceding, having been reduced to a tenth in 1736, and has remained so the precious metals; in these lofty situations, provisions being very dear *and scarce, and the climate boisterous, cold, and disagreeable, the working of the mines is much more expensive, and the health of the miners* more apt to be injured. The fact is, that the precious metals are so plentiful in general, along the different chains of the Andes, that it may be said that Europeans are but beginning to know and to enjoy the inexhaustible fund of wealth in the New World.

Management of the Mines.] What adds greatly to the expense, and which also causes a great loss of silver, is the ignorance of the Peruvian miners in the science of amalgamation. In this they are far behind the Mexican miners. The expenses of amalgamation in Peru, where the mercury of Huancavelica is generally sold for 60 or 70 dollars the quintal, amount in several mines to 30 and 38 per cent. At the Cerro de Gualgayoc, where the price of labour is from 1*s.* 6*d.* to 2*s.* per day, a load of *sehlich*, containing from two to three marks, or from 17 to 24½ dollars of silver, cost seven dollars in the process of amalgamation. During Humboldt's stay in Peru, only two districts of mines had adopted the German method of amalgamation. Mr Helms found the most unskilful and expensive methods universally in use for extracting the silver from the ore, by which not only a great proportion of the metal was left with the dross, and consequently lost but an enormous and unnecessary quantity of quicksilver was consumed in this imperfect process of extraction. These methods were, however, so obstinately adhered to, that when Mr Helms proposed a new construction of furnaces, by which, with a smaller quantity of quicksilver, the process of extraction would have been more completely accomplished, he was opposed by the whole host of those employed about the mines, not only by the superintendents, but even by the lowest miners, who were persuaded that he was to introduce machinery, by which their manual labour would be superseded. The sub-delegates, or judges in the mining districts, says

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ever since. Therefore the sum specified is the tenth and not the fifth part of the silver registered in 1763; and the other is, that even that tenth and the bobos or duty of 1½ per cent. averaged near L.100,000 annually. So much for the accuracy of the philosophical historian of the East and West Indies, whose blunders have all been religiously transferred into the Encyclopædia Britannica, with the additional improvement of making 36,000,000 livres equal only to L.151,000 sterling, and 15,000,000 of them L.632,000 sterling. We may safely conclude from what has been stated above, that the palm of mineral wealth is justly due to the Cerro de Potosi above any mining district in the world. A few years previous to the revolution, 40 ingenios or amalgamation works were at work at Potosi and produced at a moderate calculation 8000 marks of pure silver weekly, or 3,538,000 dollars annually, according to Temple, which agrees pretty well with Humboldt's estimate of their value previous to that event. But the revolution has in the meantime ruined the prosperity of Potosi, and of all the mining establishments in Upper Peru. Nowhere have its mischievous effects been more complete and manifest than in these departments. All their expensive machinery has been wantonly destroyed by the enemy, their extensive ingenios plundered and delapidated; their mines from their long abandonment of 15 years' continuance of devastation and misery, have crumbled in, filled with rubbish or with water and their capitals exposed to the arbitrary contributions of military chiefs, have been reduced to a pittance scarcely adequate, in the present day, to the decent maintenance of themselves and families. There are now only 15 ingenios at work in Potosi, and those on a very limited scale, but still producing (1827) collectively, on an average 1500 marks of silver weekly, or 78,000 marks annually, or 663,000 dollars, or L.186,468,100 sterling. What a lamentable falling off! how changed from that Potosi which, in 1611, supported a population of 160,000 persons, congregated round its base in the imperial city, which even in the times of Helms, 40 years since, contained 100,000 inhabitants, now reduced to 12,000, according to Temple. The mines are far from being exhausted, but the Creoles have neither science nor capital to work them, the revolution having swept off the latter, and many years must elapse before capital can again be accumulated to enable them to renew their mining operations, and before science can be attained to turn them to a good account.

Helms, are more especially the greatest villains, who enrich themselves by their unjust acts of tyranny, and continually accuse the subjects of sedition and rebellion; while the viceroy who resides in the capital, and is a stranger to the extensive region committed to his care, gives himself little trouble about the burdens and oppressions under which the people groan. In many parts productive mines are overflowed, which might be easily drained by the use of proper machinery; and there is throughout the whole management of the mines, a degree of negligence and sloth which is scarcely conceivable. Some of the quicksilver mines were worked for the benefit of the king, or rather to his injury, seeing that he sold each hundred weight of quicksilver to the miners at the rate of 73 piastres, while it costs at the rate of 166, by which traffic on the royal quicksilver-mine of Huancavelica, about 200,000 piastres are lost annually. In other parts where the ground is rich in metallic wealth, there is no skill or science displayed in searching after the ore. But hosts of needy adventurers rush forward, as if to plunder, and pierce the ground with innumerable holes, without order or regulation; so that it is wonderful they have not been all long ago buried under ground. Single pits, from the unskilfulness with which they are worked, fall in every day, and kill the workmen; and so common are these accidents that they are little regarded. In the midst of this waste and confusion, much valuable ore is thrown away, and the ore that is got is procured at a vast and disproportionate expense. There is no place, according to those who have visited this country, where a person skilled in the art of mining, and with a capital of £500 or £1000, would not speedily accumulate immense wealth. He might make his fortune, according to Helms, out of the materials which are thrown away as dross, by those who are at present working at these mines. In the years immediately succeeding the discovery of the mines of Lauricocha, they only wrought the *pacos*, or oxides of iron mixed with native silver and muriate of silver; the prismatic black silver, and the argentiferous grey copper, were thrown among the rubbish. In the same manner, on building the small town of Micuipampa, walls were constructed of very rich pieces of *gangue*; and those minerals only, which were of a yellowish brown, or of an earthy appearance like the *pacos*, were considered as containing silver.

A great obstruction to successful mining in Peru is the comparative want of capital. The speculator in mines, in Mexico, is generally a person of considerable capital; and who being therefore able to support and carry on his own works, reaps the whole profits of his speculation, if successful. In Peru, on the contrary, a mere speculator is generally a person in necessitous circumstances, who begins by borrowing money at an exorbitant interest, to enable him to commence his works; and ends by selling the produce of his mines at a great loss, in order to help himself to carry them on. As he is generally a practical miner, he lives miserably and labours hard from morning to night, to the great benefit of others, but with little profit to himself. Trading with borrowed capital, he is rash and incautious in his speculations; and being continually involved in difficulties, and oppressed by usurious contracts, he is apt to be improvident and dishonest. The person who lends him the money is called the *habilitador*. The money is advanced on the hardest and most oppressive terms. The miner is obliged, in the first place, to content himself with one-half advanced in money, and the other half in goods, which are often unfit for his use, and are always overcharged. He is then bound, in the second place, to repay the advance in *pina*, at the end generally of four months. This pina is silver bullion, freed from the quicksilver with which it has been amalgamated, but not smelted. The mark of pina is worth 7½ dollars before payment of the royal duties, but the habilitador allows the miner only 6½ dollars for it, and consequently receives a dollar for the loan of 6½ dollars for four months. But this is not the only disadvantage the miner *has to sustain; for if unable to satisfy the habilitador at the stipulated time, he incurs the penalty of a dollar for every mark of pina which he* has become bound to furnish; and the penalty, as well as the original debt, he is compelled to discharge in *pina*, at the rate of 6½ dollars per mark, though intrinsically worth 7½ dollars. By this complicated system of usury and oppression, a miner who has borrowed 325 dollars from an habilitador, one half in money, and the other half in goods charged above their value, may find himself compelled, at six months' end, to pay 57½ marks of pina, worth 414 dollars, in order to procure a discharge of the debt. Another description of merchant with whom the miner has to do, is the *rescatador*, who buys pina from him, and gives him money in exchange for it. In the great mines, and in the vicinity of Lima, the competition of different rescatadores secures a fair price to the miner for his pina; but in poor mines and remote situations, where the miner is in continual want of money to pay his workmen and to purchase mercury and other necessaries for his mine, he is completely at the mercy of the rescatador, and is often compelled by his necessities to part with his pina at an under value. During the rainy season, when there is little communication between the different parts of the upland country, the mark of pina often sold at 6 dollars, and sometimes as low as 5½ dollars. It is only till very lately, that evils of such magnitude to the mining system have been in any measure ameliorated. On the erection of the royal tribunal of mines, *banks de rescate*, as they were denominated, were established for the use of the miners, in the principal mining districts. These purchased pina from the miners on account of the royal tribunal, which always gave a fair price for it, and thus in some degree kept down the profits of the rescatadores, and secured the miners from their extortion. These banks were also of essential service in supplying the miners with quicksilver in such small quantities as they had occasion to use in their amalgamating operations. Formerly they had no other resource, when in want of this article, but to apply for it to the rescatadores, who overcharged them, or to the *caxas reales* which are at a great distance from many of the mines. The banks de rescate are private establishments, without any monopoly or exclusive advantages, so that the private rescatador is still at free liberty to follow his occupation. These banks used to borrow what money they could from the collectors of the taxes, and the royal tribunal repaid these loans to the royal treasury at Lima. This arrangement saved the trouble and expense of remitting the produce of the taxes in money from the provinces to the capital, and prevented them from being drained annually of their circulating medium by such remittances,—an inconvenience to which the provinces were subjected till the erection of the banks.

The labour of the mines is chiefly carried on by the Mestizoes and Indians, as they only are able to stand the fatigue and unwholesomeness of the employment. Spaniards and negroes have been often tried in this species of labour, but have always sunk under it after a short time. The Indians who serve in the mines are of two descriptions, namely, those who are subject to the *mita*, or compulsory labour in the mines, and those who work voluntarily for hire. The former are called *mitayos*. Every male

Indian from 18 to 50 must take his share in this service: and for that purpose, a list is kept in every district of Peru, by a judge who is delegated for that purpose by the intendant of the province, of all the Indians of the requisite age, who are divided into seven parts, each of which serves in its turn. The term of service lasts six months, and therefore returns once in three years and a half. The mitayo, when it comes to his turn, is forced to leave his farm or other occupation, and go to the mine where he is to serve. Some of these miserable beings are thus compelled to travel 400 or 600 miles from home, and many take their families with them to the mines. They have a small allowance for their travelling expenses, and receive for their work in the mines at least half a dollar daily, and generally a greater sum. Those who pass to Potosi are very unwilling travellers, as they generally die of asthma. The day of their departure is a very melancholy one; after solemn mass by the curate, they assemble together, accompanied by their fathers, mothers, relations, and friends, and amidst embraces and tears depart with their wives and children for their destined labour. The greater number of the miners, however, are Indians who serve voluntarily, and who receive large wages for their labour.

Quicksilver-mine of Huancavelica.] Peru is the only part of Spanish America where mercury is found in considerable abundance; and here it is met with in various districts. The famous mercury-mine of *Huancavelica* is situated in the mountain of Santa Barbara, about a mile and a half to the south of the town. The height of the town of Huancavelica is 12,308 feet above the level of the sea, and it stands in a quebrada or break of the Andes, watered by a dangerous and impetuous torrent, over which are several bridges. The mountain itself is 2,198 feet of perpendicular height above the town, and consequently 14,506 feet above the level of the sea. The great mine of Santa Barbara is 349 *varas* or Spanish yards deep, or 960 feet; and its extent north and south 536 varas, or 1,470 feet. The bottom of the mine is 13,805 feet above the level of the sea, so that the miners work in a point which is 1,640 feet higher than the summit of the peak of Teneriffe. The discovery of this celebrated mine is generally attributed to the Indian, Gonzalo Abincopa, in 1567; but it is certain that it goes back to a period long anterior, since the Incas used cinnabar in painting themselves, and procured it from the mountains of Palcas. The working of this mine, however, on account of the crown, only commenced in September, 1570, at nearly the same time that Velasco introduced the Mexican amalgamation into Peru. The mercury in the environs of Huancavelica is found in two different forms, in beds and in veins. The great mine is divided into three stories; and it is estimated that 50 quintals of tolerably rich mineral, yield, by distillation, from 18 to 12 lbs. of mercury. This mineral depository was wrought in three galleries; and before 1795, 7,000 *alpacas* and *glamas*, led and governed by intelligent dogs, carried the mercury from the mountains to the furnaces which are situated near the town. These three galleries—which have cost immense sums, being about 15 feet broad—are merely for ventilation and interior conveyance, as the mine is quite free from water. There has been extracted from the great mine of Huancavelica, between 1570 and 1789, 1,040,452 quintals, or 136,573,162 lbs. troy of mercury, averaging 4,745½ quintals annually. The most abundant years were between 1586 and 1589, when the average produce amounted to 10,500 quintals. From 1790 to 1801, a period of 11 years, the total produce was 34,903.3 quintals, averaging 3,173 quintals, 3 lbs., annually. For the last 15 years, the metalliferous bed of the great mine of Santa Barbara has been completely abandoned, owing to the falling in of the story of Brocal, the uppermost of the three stories of the great mine, occasioned by the temerity of an ignorant intendant, who, with the view of increasing the produce of the mine, removed the pillars which supported the roof. When Humboldt left Lima in 1803, the great mine was shut up, but free permission was given to the Indians to work the cinnabar-veins which traverse the Alpine limestone between Huancavelica and Sillacasa. The bed of cinnabar extends many leagues beyond Sillacasa, even as far as the village of Guachuealpa; and by beginning to work on points which have hitherto remained untouched, there would be no doubt of the success of the operations, for nothing can be a stronger proof of the abundance of mercury in this part of the Andes, than the produce of the petty labours of the Indians. If small veins of cinnabar, merely uncovered on their surface, yield annually 3,000 quintals at an average, works of investigation directed by intelligent mineralogists, will assuredly one day produce more mercury than is requisite for all Peru. It is to be hoped also, that in proportion as the inhabitants of this extensive region shall learn to profit from the natural wealth of the soil, the improvement of chemical science will discover processes of amalgamation by which less mercury will be consumed. In diminishing the consumpt of the mineral, and increasing the produce of the indigenous mines, the Peruvian miners will gradually learn to dispense with the mercury of Europe and China. We are informed by Estalla, that a rich mine of mercury has been discovered in a hill called Chouta, in the district of Huamalies.

Inferior Minerals.] The other mineralogical productions of Peru are numerous. The mountains of Raco, to the west of Lauricocha, are composed of white granite, which is much used in building. Basalt of a brown colour, in beautiful square columns, is found on the heights of San Jerouimo, and in those of Amancaes, near Lima. What is denominated the stone of the Incas is found in various parts of the Andes, being a compact marcasite, capable of a high polish. Rock-salt of various colours is found, but is only used for the cattle in the mountains, while it might become a precious manufacture.

District of Puno.] This mining district, on the western borders of the Titicaca lake, seems to have escaped the notice of the indefatigable Humboldt, in his account of the mineral produce of Peru, which is surprising, as its mines were once astonishingly productive, and at this present moment (1831) their importance as a speculation is not inferior to any of the New World. General Miller, who was prefect of the department, has made very particular mention of this mining district, in his late interesting Memoirs, and quotes from Ulloa some passages relative to the unfortunate Salcedo, whose wealth acquired from these mines was the chief cause of his execution on the scaffold, by order of the viceroy of Lima. The following particulars have been chiefly taken from a document sent to Sir Edmund Temple whilst residing at Potosi in 1827, and which is stated to be the report of an intelligent gentleman, drawn up at the desire of a Lima merchant, who has lately acquired property in the vicinity, with the intention of working the mines.

Puno, like all other mineral districts in Upper Peru, is situated in a high range of hills fronting the western shore of the lake of Titicaca. These hills are composed chiefly of a porphyritic rock, reposing on a sandstone formation, similar to the red marl and sandstone formation of the British islands, and to the great sandstone formation of Continental Europe.

In its general disposition, as in its mineralogical character, the porphyry of Puno corresponds exactly with those metalliferous porphyries which have produced the immense wealth of the Real del Monte, the Bolanos, and partly of the Guanaxuato mines in Mexico; and with those of Hungary and Transylvania, and, like them, it abounds in veins containing the precious metals. The hills of Cancharani, Laycaycota, and San Pose, are one continuous range of porphyry nearly to their bases, and in it are situated the rich veins of silver ore which have rendered these several mines so celebrated. They contain all the ores of silver hitherto found in similar districts, the muriate and carbonate excepted. The great resemblance which this mining district presents in its geological disposition and metallic minerals to the rich mines of Mexico, warrants a belief, nay, a confidence in the almost fabulous account of the produce of some of its mines, as handed down by history and tradition to the present day. All the mines situated in the hill of Laycaycota, once the property of Salcedo, have acquired, not only in Peru, but throughout America, a celebrity little inferior to those of Potosi. One of the mines on the summit of Laycaycota produced in a few years such immense wealth to Salcedo, as to collect round him a great number of adventurers from Spain; so great was his generosity, as to allow his needy countrymen who applied to him for relief, to enter his mines and work for a certain time, leaving the chance of their profits to their own labour: this was at all times, even under the worst luck, an extremely valuable license. The influence occasioned by this liberality awakened the jealousy of the viceregal government, and in the year 1669, disturbances of a serious nature having broken out at Puno, in which Salcedo acted a conspicuous part, the viceroy proceeded thither in person, arrested him, carried him to Lima, and executed him as a public traitor. His mines were then seized by the Spanish government, and worked, until water gained access, and compelled their abandonment near the commencement of the present century, and at a moment when, according to authentic records, confirmed by local tradition, pure silver was cut in solid masses from the solid rock. It is to be regretted, that no accounts of the produce of these mines during Salcedo's life exist, the archives being destroyed. A document, however, has been furnished by the provincial government of Puno, exhibiting a produce for a short period, which, if it were not founded on official records, we could scarcely believe. From this document it appears, that in the space of 12 months 163,569 marks of silver, or 1,389,336½ dollars, or £311,925 7*s*. 6*d*. sterling were registered at the provincial treasury; and this was considered as a very ordinary year, since in another 12 months the amount of duties paid into the same treasury amounted to more than a million of dollars, which, at the rate of 11½ per cent, supposes the produce of the mines to have been 1,240,000 marks of silver, equal to 10,540,000 dollars, or, in British money, £2,108,000 sterling, within the space of *one year*, exclusively of what was manufactured or carried away without paying any duty. This produce far exceeds any thing of the kind in modern times, and finds a parallel only in the rich mine of Somburete, described in our account of Mexico. About 30 years since, the mines of San Jose and Laycaycota were still very productive, until the water flowed in, for draining which adits were commenced, but bad management, want of capital, and the miseries of civil war, have likewise caused their abandonment. These mines, however, are considered among the most valuable in Peru, and, possessing a combination of advantages rarely to be found in mining speculations, they are well adapted for a company of a few individuals who would undertake to work them, and the capital required for that purpose, even on a liberal scale, would not exceed £20,000 sterling. An abundant supply of miners can always be obtained from the numerous Indian population collected round Puno, the capital of the department, where the price of labour is not more than two shillings a-day. No expensive European machinery is requisite; the compact nature of the rock dispenses with the cost of arching the adits and galleries; the well-known richness of the ore ensures a profitable return; and the capital employed would be repaid (says Temple) in 18 months from the period of commencing operations. It is confidently asserted, that the mines of San Jose and Laycaycota might in a short period be made to produce a quantity of silver as much superior to that which they gave Salcedo, as the present system of working is superior to that practised at the time when that unfortunate individual obtained such enormous wealth from them. The Puno mining district, surrounded by arid mountains, is almost destitute of wood, the only fuel used being the dried dung of domestic animals, chiefly of the lama kind; consequently, here, as elsewhere, the process of amalgamation has been followed on nearly as rough and unscientific a plan as when introduced in 1571. The richness of the ores of Puno, and their frequent associations with those of lead and copper, render them well adapted for fusion, yet the only method of extracting the silver from the argentiferous sulphurets of lead and copper is still by amalgamation, a process which, however well executed, considering the nature of the ores, is insufficient for obtaining the entire silver contained in the minerals, whilst the lead and copper, with which it is combined, and which bears a very high price in the country, is lost entirely to the miner. Two-thirds of the Puno ores being of this kind, are peculiarly well adapted for smelting furnaces, as in this way the larger portion of the lead and copper will be saved, and a greater quantity of silver be produced, than by amalgamation. At present the loss of quicksilver in extracting silver from its ores in the few amalgamation works about Puno and Lampa is from 15 to 25 per cent. on the value of the silver extracted, whilst in the process of smelting, the whole of the silver may be obtained at an eighth of the same expense, in one-tenth less time, consequently with infinitely less labour; and, in addition to the silver, a large quantity of copper and lead may be reckoned upon, which in Peru will always find a ready market, and produce a profitable return. As, however, a smelting establishment cannot be supported in the vicinity of Puno for the want of a fall of water and fuel requisite for the purpose, it must be erected on the eastern shore of the Titicaca lake, near to which, in the district of Larecaja, timber of all dimensions, for building and fuel, may be had in abundance. The ores might be picked and separated from the matrix at the mining Hacienda, thence carried to the lake, only a short distance, and conveyed in boats across it, which could be done in 12 hours, and which boats could be easily constructed and kept at small expense.

CHAP. IV.—ANCIENT INHABITANTS,—GOVERNMENT, RELIGION, AND MANNERS OF THE PERUVIANS.

FROM what country the ancient Peruvians proceeded, is utterly unknown; and it would be waste of time to repeat conjecture where we have not facts. Their early history, like that of all other nations, is blended with fable; the very nature of their system of government, which was evidently theocratical tended to fable; and as they had no other method of conveying the history of past events, but by tradition, their annals are vague and unsatisfactory. As they were not even acquainted with the rude picture-writing of the ancient Mexicans, they had no other resource to preserve the memory of past transactions, but the noted *quipos*, somewhat resembling the wampum of the North American savages. It is clear, therefore, *that very little dependence* can be placed on the Peruvian records, which, *though merely traditionary, have served* as the ground-work of De La Vega's romantic history of the Incas, from whom he himself was descended on the mother's side. Notwithstanding, however, the fabulous nature of their history, the ancient Peruvians were the most interesting people of America, having even in several instances, approached nigher civilization than the warlike Mexicans. It is customary for a class of philosophers, who see nothing but error and deception in all religions whatsoever, to vie with each other in representing the horrible effects of priestcraft, and in ascribing all the evils that man has suffered to priests. Yet it is certain, that from the state of pure savagism, it was never by philosophers, but by priests, that mankind was civilized. When America was discovered, the civilization of its different tribes was precisely proportioned to the degree of power and respectability which their priests enjoyed; and this authority of the priesthood, was not the consequence, but the cause of an improved state of society. As long, indeed, as the priest continues a mere juggler, the people continue savages; his triumph is but the ascendancy of vulgar cunning over bodily strength, and though feared, he is neither venerated nor beloved. But when a more commanding spirit arises, when connecting *old fables and dimly remembered truths* with the devices of an ingenious fancy, he lays the foundation of a mythological system, from that *moment the improvement of his tribe begins. A ritual worship creates arts for its embellishment and support; habits of settled life take root* as soon as a temple is founded, and a city grows round the altar; the men who are set apart for the service of the gods, and who are exempted from all ordinary occupations, being considered as superior to other men in knowledge, soon learn to consider themselves so, and really become so; they have leisure to acquire knowledge, and to think for the people, and accordingly it is among them, in all countries, that the rudiments of science have sprung up, and no nation has ever yet emerged from pure savagism till it had a regular priesthood. The Natches and Mexicans were the most civilized tribes of North America; and the people of Bogota and the Peruvians, in South America. Among all these, a regular priesthood was established, and had subsisted for centuries before the discovery of America. Amongst these, till that important event, civilization was progressing, whilst all the other tribes of native inhabitants remained in their pristine state of barbarism.

In this savage state were the natives of Peru when Manco Capac, the first of the Incas, with his wife, and sister Oello, appeared on the banks of the lake Titicaca. Their persons were calculated to inspire admiration and respect; and they declared themselves to be the children of the sun, deputed by him, in pity to the human race, to civilize their manners, and to reclaim them from their barbarous habits. This assertion was deemed worthy of credit by simple savages, and Manco Capac found a people willing to receive his laws. Having thus succeeded in gaining over to his side a considerable number of adherents, he journeyed northwards, fixing his rod of gold in the ground wherever he stopped; he said that he had received this rod from his father the sun, and that he was ordered to build a city and fix his residence on the spot where the rod should descend out of sight at the first stroke. On his way, the number of his adherents continually increased; the vale of Cusco being considered as an eligible place for a settlement, the golden rod disappeared,—the foundations of the temple of the sun were laid,—Cusco, the capital of his new empire, was built,—and virgins of the royal blood were appointed to serve at the altar of the new divinity.

This important event, according to Peruvian tradition, took place in the 12th century, or 400 years before the epoch of the conquest. As the reigns of 12 Incas intervened between the foundation of the empire and the arrival of the Spaniards, this space of time gives upwards of 33 years to each Inca; and hence some historians, thinking this mean term too long for 12 successive princes, will have it that the foundation of the Peruvian regime could not have existed above 240 years before the conquest. But if we consider the general longevity of the natives of High Peru, and that the climate of Cusco is remarkably salubrious, there is no improbability in the traditionary statement. The names of the Incas are the following: 1. *Manco Capac*, or 'Manco rich in virtue,' the appellation given him by his new subjects, and assumed as the distinctive appellation of the Inca sovereigns. 2. *Sinchi Roca*, or 'Sinchi the brave,' son of Manco Capac. He extended his dominions 60 miles to the south of Cusco. 3. *Lloque Yupanqui*, who subdued many tribes, and extended his kingdom in many directions. 4. *Maita Capac*, son of the former, also subdued several districts, and erected many edifices. 5. *Capac Yupanqui*, another conqueror. 6. *Inca Roca* also subdued some little tribes and districts. 7. *Yahuas Huacac*. 8. *Inca Repac*, who with an army of 30,000 men conquered *many provinces; the chief of Tucma, or Tucuman, is said to have paid him homage at Cusco. 9. Inca Urco, deposed after eleven days. 10. Pachacutic* subdued Jauja, Tarma, and other provinces. 11. *Yupanqui III.* carried his arms to the river Mauli, in Chili, and over the Mojos, far to the east of the Andes, about 1450. 12. *Tupac Yupanqui*, also another conqueror. 13. *Huayna Capac* subdued as far as Tumbez, nay, the kingdom of Quito, which he left to Atahualpa, and his own sceptre to his eldest son. 14. *Inti Casi Hualpa.* He fought a bloody battle with his brother in the neighbourhood of Cusco, but was defeated and made prisoner. 15. *Atahualpa* the usurper, who reigned at the time when Pizarro landed at Tumbez, and was treacherously taken prisoner by him near Caxamarca, and beheaded in prison,—a punishment which he had inflicted on his brother and legal sovereign. 16. *Manco Capac*, crowned, with permission of Pizarro, at Cusco. Being afterwards defeated by the Spaniards, he retired to the mountains, and died in 1553. 17. *Sayri Tupac Amaru*, the last of the Incas. He resigned the sovereignty to Philip II. of Spain, leaving only one daughter, who married Ones de Loyala, a Spanish knight, from whom are descended the marquises of Oropesa and Altamira.

From this short sketch of Peruvian history, it appears that the monarchy of the Incas extended from the river of Tumbez in S. lat. 3° 30′, exclusive of Quito, as far as the river Mauli, in S. lat. 35°, that is 31½ degrees, or nearly 1,900 geographical, or 2,150 British miles. Such an extent of territory may well deserve the name of an empire, while the Mexican princes ruled a country not one-third of this extent. The comparative magnificence of the Peruvian princes is not, therefore, surprising.

The government of the Incas was a kind of theocracy. They not merely claimed the honours of divine mission, but also those of divine descent,—a claim never advanced by the Mexican monarchs. This belief of their divine descent, secured for the Incas the unbounded veneration of their subjects. Their will was regarded not merely as that of an absolute prince, but as that of their divinity and ancestor, the sun. The religion which they promulgated was, perhaps, the mildest and most beneficent of all those pretended revelations which have at different times, and in different regions, been palmed upon the credulity of man. In these respects, it had no parallel in America, and was a perfect contrast to the inhuman cruelty of the Mexican system. The monarchy and religion of the Mexicans were founded alike by the sword; those of the Incas, by superiority *of wisdom.* The captives taken in battle were not immolated, as in Mexico, *but instructed in the arts of civilization. The priesthood was chiefly confined to the Incas and their collateral descendants. The high priest was* always either a brother, or uncle of the Inca; in other provinces, the chief priest was an Inca, and the inferior priests were of the principal families. Some authors have affirmed, that, besides the sun, an intellectual energy or soul, that animated that glorious luminary, called *Pachacamac,* was also worshipped; while others have conjectured, that by Pachacamac, they understood the supreme Creator of all things. The conjecture may be possibly true, but is by no means probable. Such refined notions as either that of a soul of the world, or of an invisible, eternal, and self-existent Being, the sole Creator of all things, are not likely to have existed among the Peruvians, for they suppose a process of mental inquiry and abstraction not to be found but among nations who have far advanced in speculative science. But whoever, or whatever this Pachacamac was, no external worship was paid to him, except in one temple in a valley called by that name.

A number of select females, called 'the Virgins of the sun,' were devoted to the service of the Divinity. These in Cusco, were all of the royal family; in the provinces, they were of the noblest families. They were admitted into convents at eight years of age, where they lived a life of perpetual retirement, and inviolable virginity, being permitted to see neither man nor woman, except the empress. If any man attempted to stain their virgin-purity, the punishment of death extended not merely to the offender, but to the whole of his family; even his herds and flocks were destroyed, his house razed to the foundation, and his lands entirely laid waste. In these convents, they were taught to spin, weave, and sew. The robes worn by the emperor and his consort on solemn occasions, were prepared by their hands, whilst others of them dressed the victuals of the Inca. The priests, equally with the virgins, were devoted to a life of perpetual celibacy, none but the empress and her daughter being permitted to see or converse with them. The Inca, however, might, if he deemed it proper, take any of the royal virgins to his bed. The sacrifices offered to the sun were partly animal, and partly of the produce of the ground. Many of the Spanish historians assert that human sacrifices constituted a part of their worship; and Acosta affirms that 200 infant-victims were annually offered for the health of the Inca. But these assertions are flatly denied by De la Vega, who, though he admits the prevalence of human sacrifices amongst his remote and rude ancestors, maintains that they were abolished by the Incas, who never stained the altars of the sun with human blood, nor conceived that their beneficent father could be pleased with such inhuman rites. Yet, upon the death of an Inca, or of any other eminent person, a considerable number of their domestics were put to death, and interred round their *guacas*, or tombs, that they might appear in the next world with the same dignity, and be served with the same respect. On the death of Huayna Capac, above 1,000 victims were doomed to accompany his body to the tomb. Four great annual festivals were kept; the greatest of which was solemnized at the summer solstice in honour of the sun and his descendants the Incas. Besides these, there were monthly festivals, chiefly observed by the priests within their temples. A perpetual fire was preserved in the great temple at Cusco, and the other temples throughout the empire, from year to year, under the inspection of the virgins or nuns.

In consequence of the government being a theocracy, administered by persons of supposed divine descent, all crimes were punished capitally, *inasmuch as they were committed not merely against the will of the Incas, but of the Deity. But the dominion of the Incas, though the most absolute of all despotisms, was mitigated by its alliance with religion. Not a forced, but a willing obedience was paid by a simple and uninformed people to the mandates of him whom they believed to be of divine origin, and clothed with more than human authority.* The Inca, conscious that such submission flowed from such belief, was continually reminded of a distinction which prompted him to imitate that beneficent power which he was supposed to represent. In consequence of this mutual impression, there hardly occurs in the traditional history of Peru a single instance of rebellion against the reigning prince, whilst the annals of Mexico are those of blood; and among twelve successive Incas there was not one tyrant.

There was only one principal temple dedicated to the sun. This temple was in the city of Cusco; it was built of freestone, but its form undescribed. The riches of the interior are said to have been immense. The walls were incrusted internally with gold; and of gold was the figure of the sun, of great magnitude, covering one side of the temple. This figure was round, like its original, with rays diverging from every part of its circumference. On each side of it were thrones of gold, on which were placed, in a sitting posture, the bodies of the deceased incas. Its gates were of gold; and a cornice of gold, a yard deep, surrounded the top of the walls on the outside. In every part of the temple, were exhibited, by way of ornament, representations in gold, of almost every object with which the Peruvians were acquainted. Besides these, were other rooms full of images; one, in particular, in which was a silver statue of the moon, with a female face, seated on a silver throne. On each side of this image, were placed, on silver thrones, the bodies of their deceased queens, embalmed like those of their husbands the Incas, with such art that they seemed alive. To this image of the moon, as sister and wife of the sun, and mother of the Incas, the Peruvians sacrificed. All the immense riches of this celebrated temple were seized by the Spaniards. Besides this chief temple, there were other four temples in Cusco, all of a pyramidal form; they were richly decorated, and called the temple of the moon, the temple of the stars, the temple of the rainbow, and the temple of the thunder, which were all accounted servants and attendants of the sun, and were worshipped with inferior homage. Those of the rainbow and the thunder, were adorned with gold, the other two with silver. To these temples was appended a large court for the priests, where they were wont to meet and consult on religious matters.

The lands throughout the whole empire were divided by the Incas into four parts, but whether of equal or unequal dimensions is unknown. These were respectively allotted to the Sun, or the maintenance of religion; the support of the poor of every kind; the maintenance of each family; and that of the Incas. In this order was the land tilled as well as distributed, for all ranks joined together in the cultivation of each part. The produce was lodged in granaries; and distributed thence, as necessity required, according to the judgment of officers appointed for that purpose. By this singular distribution of the whole territory, as well as by its mode of cultivation, clashing interests were prevented, and mutual subserviency to each other's welfare was preserved. Thus constituted, the Peruvians resembled a great family, the union of whose members by the joint concurrence of a common religion and a common interest, was so complete as to have no parallel in any country of the American continent. But though thus strongly cemented, the inequality of ranks was fully established amongst them. A great body of the people, denominated *Yanacanas,* were slaves. Their garb and houses were different in form from those of the freemen; and, like the *Tamemes* of Mexico, they were employed in every kind of servile and laborious work. Immediately above these were the freemen, but distinguished by no official or hereditary dignity. Above these were the *Orejones*, a species of nobles, who, in peace as well as in war, filled the chief employments of the state. At the head of all were 'the children of the sun,' who, by their extraordinary privileges, were as much exalted above the Orejones, as these latter were above the common people. At the time of the Spanish conquest, the lowest orders, or the Yanacanas, or slaves, joined the conquerors for the sake of nominal freedom, a circumstance that proved very detrimental to the Peruvians.

Agriculture was better known, and carried on to a greater extent in Peru, than in any other part of Spanish America. Manure and canals of irrigation to fertilize and water the soil where it was barren and dry were common in Peru,—a singular proof of art and industry, unknown in other parts of America. As the natives were unacquainted with the plough, a kind of hoe or mattock was employed to supply the defect. So honourable was the profession of agriculture, that the children of the sun at Cusco, set an annual example of industry, by cultivating a field with their own hands, which they denominated their triumph over the earth. The consequences of this laudable example of the Incas, and unremitting industry of the people, was the unfrequency of famines in Peru, though a country much less fertile than Mexico, where these were frequent.

The food of the Peruvians was chiefly vegetables, of which they generally made two meals a-day, being sparing in their diet. As intoxication was severely prohibited by the Incas, this vice was by no means so prevalent among them as among the Mexicans. Their ordinary diversions were numerous, but among them martial exercises and foot-races held a chief place. The common people were forbidden to hunt; this favourite diversion being reserved for the nobles. A general hunting-match was performed annually by order of the Inca, to destroy the wild animals; but female deer were allowed to escape, if not too old to have young. The flesh of the slain animals was divided amongst the people; as also the wool of the slain glamas, but that of the vicuna was reserved for the children of the sun. Nothing was accounted so disgraceful in Peru as idleness. By the strict orders of the Incas, this vice was severely prohibited; every man, even the highest ranks, was instructed in some mechanical profession or trade; and, as owing to the want of an alphabet in Peru, there was no reading, much of their leisure time was occupied in these pursuits. Articles necessary for domestic use were manufactured by each for himself. No man was by profession a weaver, a shoemaker, or a tailor, but every man was skilled in these arts. This circumstance, however much it might facilitate the exertions of individual genius, was certainly detrimental to the perfection of the arts in general; for wherever particular professions are exercised by particular persons, comparative perfection is soon attained. In the mechanical arts their progress was considerable. They had goldsmiths and silversmiths, who made a variety of articles for ornament and use. They had not anvils of iron, but used for that purpose a polished stone. Their hammers had no handles to add to the force of the stroke. Instead of bellows, long pipes were used, through which they blew with their mouths into the fire. When the article was sufficiently heated, they took it from the fire with a stick. Their founderies were all in the open air; they having discovered that the steam of metal, when confined, is prejudicial to health. Instead of iron, copper or flint was used in constructing their hatchets. They had neither saws, nor planes, nor augurs; nor any thing to supply the place of nails, except cords. Their masons used sharp pebbles or flints in shaping or polishing their stones. With the mechanical powers they were unacquainted,—the lever perhaps excepted. Every thing was accomplished by the accumulation of human strength, brute animals never having been used to aid their efforts. Their threads were made of the sinews of animals, the fibres of plants, or the bark of trees; their combs were thorns set in the side of a piece of cane; their razors were sharp flints; and their mirrors burnished copper.

In arithmetic, they counted by strings of various colours, on which they made knots. By this mode, strange as it appears to us, the Peruvians could add, subtract, multiply, and divide, as expeditiously as Europeans by the aid of figures. Their geometry proceeded no farther than the measurement of their lands, and fixing the boundaries of their provinces; but they had maps of several parts of the country, and particularly one of the city of Cusco and its vicinity, which would not have disgraced an European artist. Their astronomy was confined to observations of the sun, moon, and the planet Venus. They ascertained by the motions of Venus, that she differed from other stars; and noted the change, increase, and decrease of the moon. They knew the annual revolutions of the sun, and marked the equinoctial, and the winter and summer solstices. The former was ascertained by certain pillars erected for the purpose, which at that period gave no shadow; the latter was ascertained by the rising and setting of the sun in a direct line with a range of towers built in a direction proper for that purpose. Of the true figure of the earth, they were utterly ignorant; as also of the cause and nature of eclipses, especially those of the sun, which they, in common with many other ancient nations, imagined to be occasioned by their sins. Their annual periods were computed by solar revolutions; and by that of the moon they regulated their months, which were divided into four quarters of seven days each, so that their week was that of the old world.

Their poetry and their philosophy were alike superficial; but their morality, however lame and imperfect, was far superior to that of the other American tribes. Parental authority and filial submission were strongly inculcated amongst them. Strict subordination prevailed through every department of society, from the Inca to the meanest subject. Over every ten families was placed a decurion, whose business was to watch their conduct, to see that they were industrious, to provide them with seed to sow their lands, and with necessaries if they laboured under a want of either, and to look to the sick and aged. Over every 50 families was placed another inspector. Over 100 families another was appointed; and so on progressively to 1000 families, over whom was the highest inspector. Over all these was a national censor, who examined the conduct of all these inspectors down to the decurion, who in their turn were subjected to each other's inspection. The chief officers of state were under the inspection of the national censor. Not only the families, but the individuals under each decurion, were carefully registered, and every change induced by marriages, births, or deaths, was exactly noted; so that the Inca could in a very short time be informed of the actual state and population of his empire. All this minute mechanism and close inspection proves the despotism of the system; but if tradition is to be credited, the powers of government were never abused. Polygamy was prohibited; children remained under the care of their parents till 25; and marriage contracted before that period, without parental consent, was declared illegal. None were allowed to marry out of their own tribe; but the Incas being believed to be of divine descent, each reigning prince was obliged to marry his nearest female relation, to preserve the purity of his blood. In others, incest was punished with death; as also adultery, murder, robbery, and indeed every crime, all their punishments being capital. The rule of their morality was the arbitrary will of the Inca, descendant of the sun, their chief if not sole divinity. An action was not considered good or bad in itself, or in reference to society, but simply as it was enjoined or prohibited by the Incas.

But the chief proofs of Peruvian grandeur, industry, art, and civilization, are found in their public roads, aqueducts, and buildings. From the market-place of Cusco, issued four roads, running towards the extremities of the empire, in the direction of the four cardinal points. These running north and south, were each 1,500 miles in length. One of these was carried along the sea-shore, through the plains; and another along the high ridge of the Andes, which still remains in many places entire,—a work of stupendous labour, carried over mountains and valleys, and places almost inaccessible to human foot, and at heights equalling that of Mont Blanc.[1] The road was 15 feet broad, paved with large and smooth flags, and fenced with a bank of turf on each side, and to preserve, as much as possible, the level of the road, the hollows were filled up, and eminences levelled. At proper distances, *tambas*, or lodging-houses, accompanied with other buildings for storehouses, were erected for the accommodation of the Inca and his attendants, when journeying through his dominions. This monument is a decisive proof how far the Peruvians had advanced in civilization beyond all other American tribes, not even excepting the Mexicans, to whom public roads were hardly known. Even in civilized Europe, it was long before such useful modes of facilitating communication were adopted. The Roman roads, so justly admired for their length, solidity, and durability, and as monuments of former power and high civilization, were destroyed by the destructive inroads of the barbarians; and at the time when the Spaniards entered Peru, no European state could boast of any work of public utility to be compared with this great public road of the Incas. As the Peruvians were unacquainted with the use of arches, and, from the want of tools, could work but on a limited scale in wood, they could not construct bridges either of stone or of timber, over those innumerable and impassable torrents which crossed their great roads: to supply this defect, ingenuity suggested the device of rope-bridges, pretty similar in construction to the sangkas, or rope-bridges constructed by the natives of Tibet and northern Hindostan. In the lower plains, the rivers were passed in *balzas*, or floats furnished with masts and sails, by means of which these balzas could not only go swiftly before the wind, but veer about, and tack with great celerity. In this, the Peruvians excelled all the other American tribes, who were only acquainted with the oar. As Peru is a dry and sterile region, not only irrigating canals, but also aqueducts were built, to supply the deficiency of water, and to convey it from one place to another. Remains of these aqueducts (says Humboldt) are still found in the maritime part of Peru, extending from three to four miles. The Spaniards destroyed these solid and useful works; and that part of Peru has since become another Persia,—a desert destitute of vegetation.

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[1] This immense elevation, however, has contributed to the superior preservation of the road; and as the Peruvians were unacquainted with the use of draught-animals, and carts and carriages, which wear out roads much more rapidly than the tread of human feet, this circumstance has also tended to preserve it almost entire.

The solidity of their stone-structures was astonishing. Their architecture was limited, indeed, to the wants of a nation of mountaineers; it had neither columns, nor pilasters, nor circular arches. Inhabiting a rocky country and elevated plains almost destitute of trees, they were not led, like the Greeks and Romans, to imitate in their architecture the details of a construction in wood. Simplicity, symmetry, and solidity, were the three distinguishing features of Peruvian buildings. The temple of Cayambo, the palaces of the Incas at Callo and Cannar, the ruins of Tiahuanacu and of the fortress of Cusco, are all proofs of this. The ruins of the temple of the sun at Cusco, are formed of stones 15 and 16 feet square, and which, though of the most irregular shapes imaginable—as the Peruvians were ignorant of the art of hewing them to a particular form—are yet joined so exactly that not the least void is perceptible. Acosta measured some stones which were 38 feet long, 18 feet broad, and 6 feet thick; stones of the same enormous size, were found at the ruins of Tiahuanacu; those used in the palace at Cannar were not so large, none exceeding eight feet long. The stones are still more remarkable for the beauty and variety of their shapes than for their size, and were for the most part joined together without cement. It is not, however, strictly true—as has been asserted by Robertson and others—that the Peruvians were ignorant of the properties and use of mortar: Humboldt and his companions recognized cement in the walls of Cannar, and in the three palaces of the Inca at Llano de Pullal, each of which is more than 190 feet long. The walls of Cannar are of freestone, 20 feet high, and, including the fortifications, more than 480 feet long. The cement of these walls, and the other buildings at Pullal, is a mixture of small stones and argillaceous marl, which effervesces with acids, and is a true mortar, which Humboldt detached in considerable portions with a knife, by digging into the interstices, which were left between the parallel layers of the stones. Not only was this marly mortar employed in the great edifices of Paricatambo, but even a kind of asphaltum or bitumen was used,—a mode of construction known on the banks of the Euphrates and Tigris from the remotest antiquity. One great defect in their buildings arose from the want of windows; all the light was from the doors, so that the interior of their buildings was dark and gloomy.

Such is a brief outline of the ancient Peruvians, their religion, civil government, manners, customs, and what progress they had made in the mechanical arts, as far as can be deduced from traditionary records, and the remains of their roads, buildings, and antiquities.

CHAP. IV.—POPULATION, MANNERS, AND CUSTOMS.

The population of Peru Proper appears never to have been great; and Bouguer has observed that the ruins of the ancient villages are generally 30 miles distant from each other. In all the dominions of the Incas, Cusco was the only place that was entitled to the appellation of a city; the people every where else lived in detached habitations dispersed over the country, or at the utmost, settled in small villages. From the nature of the country, its population never could have been very great. It is certain, that though the Indian population have greatly declined in numbers since the loss of their independence, yet the declension has not been so great as some authors have asserted. A Peruvian author, named Feyjoo, who wrote in 1763, affirmed that according to an enumeration of the inhabitants of Peru, made by the archbishop of Lima, in 1551, there were 8,258,000 Indians. By an enumeration, made in 1793, by orders of the viceroy Gil Lemos, the number of Indians did not exceed 600,000. If the former statement, therefore, had been true, the present native population would not have amounted to 1-13th of its former number. The assertion of Feyjoo, however, is entirely false, for, on a careful inspection of the archives of Lima, by father Cisneros, it has been discovered that this supposed population of more than 8,000,000, rests on no historical document; and Feyjoo has since confessed, that his assertion was merely founded on a supposititious calculation from the enumeration of so many ruined towns since the era of the conquest, which seemed to him strong proofs of an immense population. As the examination of error frequently leads to the discovery of truth, Father Cisneros found, on searching the archives of the 16th century deposited at Lima, that the viceroy Toledo estimated, from an examination which he made in person of the kingdom of Peru from Tumbez to Chuquisaca—which is nearly the extent of the present republic—only about 1,500,000 Indians, or 900,000 more than the present number. But as the ancient empire of the Incas contained, in addition to the present bounds of the viceroyalty, the kingdom of Quito, and great part of La Plata and Chili, its population was probably upwards of 4,500,000 persons, when in its most flourishing state. The number of Creoles, Spaniards, Negroes, Mulattoes, Mestizoes, and Sambos, amounted in 1793, to 476,122 persons. Of this number, the Mestizoes composed 240,000, and the whites 130,000 persons. This, combined with 600,000 Indians, gives a total of 1,076,122 persons, as the total population of the whole viceroyalty. But the census of 1793 was made with little care, and the Indians have so many reasons to conceal their real numbers, that the returns were considerably under the real truth. Estalla, therefore, estimated the population of Peru at 1,400,000 or at least 1,300,000 persons. The latest returns we have seen state it at 1,700,000.

The declension of the Indian population is owing, not merely to the inhumanity of the first conquerors and the mistaken policy of the Spanish government, but to many other causes, as the labours of the mines, the ravages of imported European diseases, and the abuse of intoxicating liquors. This last circumstance is most efficiently destructive. Ulloa says that the use of spirits is fatal to more Indians in one year than the mines are in fifty. The Indians of the Sierras, or high country, are so immoderately fond of ardent spirits, that they are often found dead in the fields at break of day, from the debauch of the preceding night. In 1759, the government was obliged to prohibit entirely the use of spirituous liquors, on account of an epidemic fever then raging among the Indians, which owed its destructive powers in a great measure to their habits of drunkenness. It is difficult to assign the real cause or causes of this extraordinary propensity to this brutish vice. If we are to believe their traditionary history, it was unknown to their ancestors the ancient Peruvians; and the manufacture or sale of any intoxicating beverage, was strictly forbidden by the Incas. Those idle and slothful habits which they have contracted since the conquest, contrasted with the laborious pursuits of their ancestors, and a conscious and ever present sense of their fallen and servile condition, and the impossibility of ever recovering their pristine importance, may have paved the way for this degrading vice. Drinking and gambling are, as it is well known, vices peculiar to the savage tribes, where ignorance and idleness form the predominant feature of their character. The measles and small pox also carry off vast numbers. A pestilential fever, in 1720, swept away the inhabitants of whole villages, and caused everywhere the greatest mortality. Another cause, which is continually diminishing the aboriginal race, and which must finally extirpate it, is the progress of the other castes. It is observed, that wherever the Indians are settled along with the Spaniards, their numbers decrease. Emigrations of the natives to the adjacent viceroyalties, are frequent and numerous, which also tends to diminish their numbers.

The Peruvians, like the Mexicans, are copper coloured. According to Humboldt, this colour is peculiar to the whole American races, from Labrador to the Straits of Magellan; and climate he affirms to have no perceptible influence on their complexion: some tribes may be darker than others, but this is independent of climate. The natives of the Rio Negro are darker than those of the Lower Oroonoko, though they enjoy a much cooler temperature. Near the source of the Oroonoko, there are tribes of a very light complexion, surrounded by other tribes much swarthier. The Indians of Chili, and on the tops of the Andes, are as dark as the inhabitants of the plains; though the former are clothed, and the latter go almost naked, and those parts of the body which are constantly covered, are as dark as those which are always exposed. The Mexicans are darker than the natives of Quito; and those who live near the Rio Gila are swarthier than those of Guatimala. Contrary to the information obtained by Volney concerning the North American Indians, Humboldt maintains that in all Spanish America the children of the Indians are copper-coloured from the moment of their birth; and the caciques, who are always clothed, have all parts of their body of the same copper colour, except the palms of their hands and the soles of their feet. The Peruvians generally have beards more or less, though less than those of the Mexicans; there are individuals, however, who have neither hair nor beard. Their hair is black, lank, coarse, long, and shining, and seldom changes to grey. Unless their days are shortened by intoxication, the Indians are a long-lived race. They suffer less from wounds or bruises, and are less subject to personal deformities than the other castes. A crooked spine is not seen amongst them; and very few of them are squint-eyed or lame. In the provinces afflicted with those glandular swellings, called *goitres,* common in high Alpine regions, the Indians are exempted from them, and even the Mestizoes rarely suffer from that malady.

Besides the race of Peruvian Indians, many other Indian tribes exist on the east of the Andes, in the Montana Real, and on the Upper Maranon and its tributary streams. The number of Indian tribes in the Montana Real and Steppe of the Holy Sacrament, amount to 25, according to Father Girval, of whom he pretends to have converted 4, the *Panos, Cambos, Chipeos,* and *Piros.* The common deity of all these tribes is the *Moon; but they dread* a demon called the *Nugi,* whom they regard as the *cause of all their calamities. Their chief food is the flesh of beasts and birds. No chief is acknowledged* by *them, except during war, when he who is thought* to have most courage and cunning is elected. But before he is admitted to the chief command, he is subjected to many cruel proofs of his constancy and courage, one of them being a most severe whipping. The men wear a coat of coarse cotton, while the women only gird their loins with the *chilundi.* Their heads are adorned with the brilliant plumage of birds, but their bodies and faces are tatooed with various colours. Some tribes are more humane and courteous; while others, as the *Casivas* and *Carapachas,* are cannibals. The latter, however, and the numerous tribe of the *Chipeos,* are of so fair a colour, and so ample a beard, that they resemble the Europeans. Both these tribes being situated on the Pachitea and its vicinity, between 7° 35′ and 8° S. lat. this singular circumstance defies all the theories of the influence of climate upon the human race.

Among all the tribes on this part of the genuine Maranon, circumcision is practised among the men, and excision among the women. Polygamy is general, and the wives are often repudiated, but may wed other husbands. Two sisters are frequently married to the same husband, and caprice alone regulates their connexions. The *Carapachas* are asserted by Girval to be possessed of unrivalled beauty of face and form, the women being equal to the Georgians and Circassians. Yet their guttural pronunciation is like the barking of dogs; and when they speak, they strike on their thighs with great noise. The *Capanaguas,* a tribe on the Mague, dress and eat their dead, and think this action meritorious! They are, however, said to be one of the most humane tribes. The women of the Indian tribes on the Rio Napo, are said to be warlike; when visited by Requina, he found that when the husbands were absent hunting or fishing, they were ready to defend their hovels and children. The women of the *Omaguas,* on the banks of the Yupura, go wholly naked. The Omaguas inhabit the banks of the Maranon, from 60 leagues below the mouth of the Napo, to 14 leagues below that of the Yutay, including the islands in the river, an extent of 200 leagues. Their settlements were so numerous in the time of Acuna, in 1638, that Teixeira never lost sight of them all that distance; and for 50 leagues N. and S. of the Maranon, no other settlements were in sight of the banks, such was their superiority. The name *Omaguas* signifies 'Flat heads,' from a custom once common with them of confining the forehead and occiput of their infants between two boards, to make them perfectly flat, in order to resemble the full moon, which is their standard of beauty for the human face; the skull consequently grows out at the sides, and is more like an ill formed mitre than a head. This deformity of skull is, however, concealed in the females, by the extraordinary quantity of their hair. The pressing boards are at present disused, and the skull is moulded by squeezing it with their hands. In consequence of this distortion, they are almost without the faculty of memory, though in other respects the most docile, civilized, and rational savages on the Maranon. They were lately taught by Requena to make bread of the *yuca*. The *Guaguas*, another tribe on the Yupura, are cannibals, and return from war with the hearts of their enemies fastened round their necks. They even salt human flesh, and regard it as a most savoury repast. The *Casibos*, on the Pachitea and the Mayro, are also anthropophagi or cannibals; and do not hesitate, under the pressure of famine, to kill one another by surprise. Of the *Supebos*, some are remarkably fair; and they use a neat dress in the form of a tunic. The *Yures* on the Putumayo or Iza Parana, are noted for *their skill in poisons. The Iquitos, on the Nanay, are dexterous at the lance; and are the only tribe which adores rude statues of quadrupeds, birds, and reptiles. The Amachucas, on the Abujay, which joins the* Maranon from the east, and by which the Portuguese might enter the Steppe of the Holy Sacrament, are large of stature and corpulent. They are always engaged in war, and do not believe that there are any nations in the world, except those on the Maranon and Abujay. The *Setebos*, *Cocamas*, and *Maynas* tribes, are situated towards the mouth of the Guallaga, and on those of the Tunguragua. The *Conibos* will take a whole year to hollow out a canoe from one tree, 15 or 20 yards in length, and from 5 to 7 quarters broad, which is accomplished by the means of sharp stones and fire. These, with a number of other tribes on the Apurimac or Ucayale, before it is joined by the Tunguragua, flatten the heads of their infants, in order, like the Omaguas, to resemble the full moon. The girls go entirely naked, while the married women wear a slight cincture; but among many other tribes, complete nakedness is universal. They seem to believe in one god, of a human form, who retired to heaven after making the earth; but do not venture to adore him, except during earthquakes, which they believe to proceed from the footsteps of their god, who visits the earth in order to see how many exist. They also believe in an evil spirit, of whom the most sagacious, for the sake of emolument, dare to declare themselves the priests, and regulate in his name, amours, intrigues, health and sickness, and their little warlike campaigns. They also believe in another life, and imagine that thunders are the battles of that distant world. Some believe in transmigration, and suppose that the souls of their chiefs animate tigers and monkeys. The dead are disinterred after a certain period, and the bones washed and preserved; but some tribes eat the flesh of their dead. Besides the chase and fishing as means of subsistence, they cultivate a few herbs, particularly the yuca, with which they make *mazato*. In order to cultivate the yuca, they cut down the trees with stone axes; and Father Girval brought one from Manoa, made of the stone called by the Spaniards fly's wing; but they have also axes of copper. As to the respective numbers of these tribes, we have no account whatever.

State of Society, Manners, and Customs.] The state of society, and the character of the Creoles, is here much the same as in the rest of Spanish America. The Indians of Peru occupy the same place in the scale of society as in Mexico. They are described by Humboldt and Estalla in very different colours from those used by Raynal, Kotzebue, and Marmontel. They are in the same fallen and degraded state as the Aztecs of Mexico; and their fate is a striking proof of the moral influence of social situation over the human mind. There is not a class of men under the sun better fenced with a host of protecting laws against the tyranny and injustice of their rulers, than the Indians of Spanish America; and yet, in spite of such legislative enactments in their favour, none have suffered more severely from rapacity and oppression, and nowhere have the conquered so much degenerated. Placed by these very laws in a state of perpetual pupilage, the Indians can never improve; excluded from all intercourse with strangers, and living under their own caciques, as a separate race, their intellects are never enlightened, and their ignorance is perpetuated; the very multiplicity of the laws in their favour, has produced a corresponding busy interference of priests and magistrates in their concerns, who are thus enabled, on pretext of serving, deeply to injure them. Their privileges excite the envy and hatred of the other castes, and alienate them from them; and they are plundered and despised by the mixed races, and even by the negroes. Their capacities are said to be very limited, and they possess little or no variety of character. They are melancholy, from temperament; timid and dastardly, from oppression; cowardly in moments of danger; savage and cruel after victory; and severe and inexorable in the exercise of authority. They stand greatly in awe of the Spaniards, and are docile and obedient to their commands, but secretly hate them and shun their society, and only dislike them less than they do the Mulattoes and Negroes. They are distrustful in their temper, and suspect every one who does them a kindness of a design to impose upon them; they are stout and robust; capable of enduring labour, but lazy, dirty, and improvident. Their habitations are miserable hovels, destitute of all conveniences, and disgustingly filthy. Their dress is poor and mean, and their food coarse and scanty. Their propensity to spirituous liquors has been already mentioned. Their religion is still tainted with that of their forefathers; but they are great observers of the external rites and ceremonies of the Romish church, and spend large sums of money in masses and processions, a species of profusion on which they are naturally encouraged by the priests. From this view of their present state, it is clear that, though the most numerous caste, they are utterly unfit to be the governing party. Speculatists who recommended the invasion of Spanish America, in order to emancipate the native race, were utterly ignorant of their true character and real situation.

The constitution of society, with the different modifications of disposition and temper, and the manners, customs, habits, and views, peculiar to each grade of the Peruvian population, are so similar to those already described under preceding articles, that there is no need of entering any farther into the subject. The only remarkable difference lies in this, that the inequality of fortune, so conspicuous in Mexico, is not nearly so great in Peru, and especially at Lima. There, an annual income of 80,000 francs, or £3,333 sterling, is very uncommon; and Humboldt says, that he knew of no Peruvian family who possessed a clear and fixed revenue of 130,000 francs, or £5,417 sterling, annually.

Religion and Literature.] The ruling religion of Peru is the Roman Catholic. The archbishop of Lima is head of the Peruvian spiritual corporation, having under him four suffragans, namely, the bishops of Arequipa, Truxillo, Cusco, and Guamanga. Besides the chapters of these bishoprics, there were 557 curates of the royal presentation under the old regime.

Besides the regular clergy, there are, as in other parts of Spanish America, missionaries appointed for teaching and converting the savage tribes to the east of Peru. This charge was, till very lately, intrusted to the Jesuits,—the most politic, persevering, and ambitious, as well as the best informed of all the Catholic orders. Upon the dissolution of that body, the charge of converting and civilizing the Indians fell into the hands of the Franciscans of Lima. It is to the missionaries entirely that we are indebted for any information that we possess of the regions to the east of the Andes; and it was certainly a work of immense difficulty and danger, to cross their different ranges, exposed to privations and death among the rude and ferocious tribes of the Maranon and its tributary streams. These missions were begun in 1638; and so indefatigable were the Jesuits in their endeavours to reclaim and convert the savages, that, at the commencement of the 18th century, besides Borja on the Tunguragua and its dependencies—which was their chief missionary station—they had 39 towns, founded mostly by their own labour and charge, 18 missionaries, and 26,000 converts; and were on terms of amity with different large and populous tribes. There are a number of passes in the Andes to these missionary stations, denominated the missionary passes, from their discoverers the Jesuits; they are very difficult of ascent, as the western side of the eastern ridge of the Andes is extremely abrupt, and full of precipices and morasses of melted snow, so as to form a strong bulwark between Peru and the savages to the E. The destruction of the Jesuits, and several insurrections among the Indians, proved almost ruinous to the cause of the missions. The rebellion of Juan Sanchez, called Atahualpa, who pretended to be descended from the Incas, in 1742, occasioned the utter destruction of many missionary stations to the east of Tarma, Huamalies, and Caxamarquillo. In 1754, the missionaries resumed their cares in the district between Caxamarquillo or Pataz, and the Guallaga, or port of the Montana Real. This ridge having been passed at different times, the river Manoa was disclosed in 1757. The new missions were scarcely established on the Manoa, when it was discovered from an old map preserved in the religious college of Ocopa, that by the route of Pozuzo, and from its confluence with the Mayro, a navigation was opened to the Pachitea, and thence to the Ucayale or Maranon and Manoa; but when these missions were explored in 1767, it was found that all the preachers had been slain by the Chipeos, who had returned to their former idolatry. Missionary labours were, however, again renewed in this quarter; and with so great success, that in 1788, there were 103 missionary stations to the east of the Andes. In 1791, the viceroy of Peru received a special order to extend and secure the labours of the missionaries; in consequence of which, the travels and voyages of Fathers Sobreviela and Girval were executed, which have thrown so much new light on the geography of the Upper Maranon and the tracts watered by its streams. The president of the missions has his residence at the Lake of the Great Cocama, near the confluence of the Guallaga and Tunguragua. The settlement is on an elevated spot on the borders of the Lake Hevi; here also resides a lieutenant-governor. The number of converted Indians in its vicinity, in 1791, was 8,895; with 19 curates, and a superior of the missions. The curates have each 200 dollars annually, and the superior 333, paid at the treasury of Quito, and chiefly remitted in effects; the Indian servants hunt and fish, and labour little fields of rice, cotton, and sugar canes. The lieutenant-governor, who resides at the settlement, is assisted in civil matters by a cacique of the Maynas. Boys of ten or twelve years old are, with pleasing assiduity, trained to the magistracy, being annual inspectors of the conduct of their comrades, and correcting small offences; crimes, which are very rare, are reported to the judges by the youthful inspectors. The courage and zeal of the missionaries in thus hazarding their lives, after repeated murders of their predecessors and brethren by the savages, are deserving of all praise. Occupied in teaching them the arts and comforts of life, and to obtain a decent and innocent sustenance, whatever a Protestant may think of their religion, he cannot deny the applause due to their fortitude and beneficence.

The language of the ruling people in Peru was called the *Quechua;* and is still cultivated by the Spanish clergy as indispensable in the evangelation of the natives. The sounds *b, d, f, g, r,* are wanting; but when the Spanish grammarians add the *x* and *z*, they forget that their own *x* is an *h* or *sh*, and their *z* is equally expressed by *s* or *c*. The grammar of this language, and it was said that of the Tehuels or Patagons, is nearly as variegated and artificial as that of the Greeks, hence our wonder at the refinement of the Sanscrit may perhaps suffer considerable abatement. The Quechua is said to have been a new language established by the Incas. The university of St Mark, founded at Lima in 1576, is the only seat of literature in Peru.

CHAP. VI.—GOVERNMENT—REVENUE AND COMMERCE.

THIS country has adopted a federal constitution, nearly similar to that of Colombia. Its army amounts to 7,500 men; and its navy is composed of one ship of the line, one frigate, and five small vessels.

Revenue.] The revenue arises chiefly from the annual coinage at Lima, and the duties on commerce, both foreign and domestic. It is impossible to state with precision the amount of revenue, whether gross or net. The former was estimated by Humboldt at 4,000,000 dollars, or £900,000 sterling annually; and the latter at 1,000,000 dollars, or £225,000 sterling annually; so that, by this estimate, three-fourths of the whole revenue were consumed in the expenses of the administration.

Commerce.] Peru trades with Europe, the East Indies, coastwise with Mexico, Guatimala, and Chili, and overland with the provinces of Rio de la Plata, including Buenos Ayres, &c. Its exports are chiefly gold and silver, wine and brandy, sugar, jesuit's bark, salt, the fine wool of the *vicunna*, or sheep of the Andes, which is manufactured into beautiful shawls, coarse woollens, and other manufactures of little value. It receives in return European goods, live stock, provisions, tallow, cacao, Paraguay tea, coca leaf, indigo, timber, cordage, pitch, copper, and iron. Its commerce ranges under three heads: that by land, with the Rio de la Plata provinces; that by sea with the other colonies; and that with Europe.

The exports of Peru to Potosi and the other provinces of the Rio Plata, are valued by Estalla at more than 2,000,000 dollars, or £450,000 sterling annually, and the imports at 800,000 dollars, or £180,000 sterling annually; so that the balance in favour of Peru is 1,200,000 dollars, or £270,000 sterling, independent of the profits on the carriage of the goods, which belongs also to Peru, as the carriers are Peruvians. Cusco and Arequipa are the centre through which this trade passes. The chief exports to the Plata, are brandy, wine, maize, sugar, pimento, indigo, and woollens; the brandy alone, amounts nearly to a million of dollars, or £225,000 sterling; the woollens—which are next in value—are chiefly made in Peru, but part of them are brought from Quito. A great part of the woollens are manufactured at Lambayeque, where the Indians have applied themselves so assiduously to agriculture, manufactures, and commerce, as greatly to surpass the Spaniards; and as the produce of their farms and manufacturing industry, is free from the alcabala and all other taxes, they have advantages over the other castes, of which they want only industry and ability to make a proper use. The provinces of the Rio Plata used formerly to take woollens to a large amount from Quito, but it is now found more economical to procure them from Europe by the way of Buenos Ayres. The indigo exported from Peru, is previously imported from Guatimala. The chief imports from the Rio Plata, are mules, sheep, hams, tallow, wool, coca leaf, Paraguay tea, and a small quantity of tin from Oruro; 20,000 mules are annually imported from Tucuman, for the service of the mines. The commerce of Peru by sea with the other Spanish colonies, is chiefly carried on by the port of Callao, and those of Arica, Payta, &c. The amount of this commerce with Chili, Guayaquil, Panama, and Guatimala, for the years 1785, 1786, 1787, 1788, 1789, presents an annual average of £465,034 15*s.* of imports; exports, £381,324 8*s.* 5*d.*; balance against Peru, £83,700.

Forty-one vessels, of different sizes and kinds, were formerly employed in this trade; and all of them, except three, belonged to Peru; their combined tonnage amounted to 351,500 cwt., and they were manned by 1,460 seamen. The chief exports to Chili, are European goods (previously imported at Callao), sugar, coarse woollens made in Peru, indigo from Guatimala, salt, cotton, pita yarn, and some other trifling articles. The imports are chiefly wheat, copper, negroes, tallow, wine, Paraguay tea,[1] salt meat, timber, cordage, and leather. Three-fourths of the exports to Guayaquil consist of European goods; and the remainder, of flour, brandy, and copper. The imports are chiefly cacao and timber. There is also imported into Peru, on the account of government, a considerable quantity of tobacco, the produce of Guayaquil, which is afterwards re-exported to Chili, but this is not included in the preceding statement. The trade of Panama has decreased since the middle of the last century, and is now reduced almost to nothing. The exports to Panama are coarse woollens, sugar, flour, and brandy; and the only returns are a small importation of cacao and timber, and the remnants of a slave trade, daily diminishing. The wines and brandies of Peru might be exported with advantage to San Blas, for the consumption of Sonora, Cinaloa, and California.

The commerce with the mother-country was carried on by Porto Bello and Panama, till 1748, when register-ships were substituted for galleons; and the passage by Cape Horn, for the circuitous route formerly in use The doubling of Cape Horn, formerly so much dreaded by navigators, has now become, in the progress of navigation, of little difficulty or danger even to small vessels of the United States of America. When the circuitous route of Porto Bello and Panama was abandoned, the first Spanish vessels which sailed by Cape Horn were insured at 20 per cent. of their value; but the vessels which now perform this voyage, were latterly insured against sea-risk, at Cadiz, for 2 per cent. Still the trade was clogged and fettered with much useless expense and unnecessary delay, and subjected to an arbitrary license, granted or withheld, or burdened with restrictions, just as it suited the whim or interest of the minister. These register-ships continued to be employed till 1778, when the system of comparative free trade was commenced. The result of this system was highly favourable to Peru; industry received a new impulse, the value of the imports increased, and the produce of the mines nearly doubled. From 1714 to 1739, the whole exports of Peru to Europe, by the galleons, averaged 2,125,000 dollars, or £478,125 sterling. The annual average by the register-ships, from 1748 to 1778, was 4,260,479 dollars, or *£958,607 1s. 6d. From 1785 to 1794*, since the establishment of free trade, 6,686,884 dollars, or £1,504,546 17*s*. 6*d*. From 1785 to 1789, *the whole exports from* Cadiz to Lima, including Spanish and foreign produce, amounted in value, with the addition of 22 per cent. duty, to 32,397,453.5$\frac{7}{8}$ dollars, or £7,289,426 9*s*. sterling, averaging 6,476,496$\frac{7}{8}$ dollars, or £1,456,885 5*s*. sterling. The value of the above exports at Lima, including 22 per cent, to bring the official value to the market price at Cadiz, was 42,099,313.6$\frac{5}{8}$ dollars, or £9,465,594 19*s*. sterling, being 9,701,860 dollars, or £2,182,918 10*s*. sterling more than the price at Cadiz. The quantity of gold and silver in coin and bullion, exported from Lima, from 1785 to 1789, was 27,861,700.3$\frac{7}{8}$ dollars, and the other products 3,624,656.7 dollars: total, 31,486,357.3$\frac{7}{8}$ dollars, or £7,084,429 17*s*. 9$\frac{3}{4}$*d*., or 6,297,271.2.6 dollars, or £1,416,885 16*s*. 6*d*. sterling annually. Of these exports, the precious metals averaged 5,572,340 dollars, or £1,253,768 10*s*. sterling annually. The value of these exports at Cadiz, was 35,979,399.6$\frac{7}{8}$ dollars, or 4,493,042 dollars more than at Lima; so that the balance of exports and imports during these five years, was 5,208,818 dollars, or £1,171,983 10*s*. against Peru.

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[1] The article of tea, which is imported from Paraguay, is not the China tea, but is infused in the same manner, and is in as general use there as the China tea is in Great Britain. In such universal request is this refreshment among the natives, that it is said the mines could not be worked without it. Its peculiar properties are not known in this country; but as the intercourse increases, it will no doubt be imported, and may, if it is found equally acceptable to the general taste here as in South America, prove a rival to the China tea.

The official accounts of the Peruvian commerce for 1825 valued the total importations of that year at 15,541,750 francs. Owing to the diversity of the climates in the Vice-royalty of Peru, all kinds of European manufactured goods find a ready sale; those from England are mostly preferred to any other: indeed many can only be procured from that country; and the supplying of those by Great Britain to a population of a million and a half of people, must be considered a means of extending her commerce, and the decided preference given to them must be highly flattering as well as beneficial to the British nation. "On entering a house in Lima, or in any other part of Peru that I visited," says Stevenson, "almost every object reminded me of England; the windows were glazed with English glass—the brass furniture and ornaments on the commodes, tables, &c. were English—the chintz or dimity hangings, the linen and cotton dresses of the females, and the cloth coats, cloaks, &c. of the men, were all English:—the tables were covered either with plate or English earthenware, and English glass, knives, forks, &c.; and even the kitchen utensils, if of iron, were English; in fine, with very few exceptions, all was either of English or South American manufacture. Coarse cottons, nankeens, and a few other articles were supplied by the Philippine company. Spain sent some iron, broad cloth, Barcelona prints, linen, writing paper, silks, and ordinary earthenware. From the Italians they had silks and velvets; from the French, linens, lace, silks, and broad cloth; from Germany, linens (platillos), common cutlery, and glass, every thing else either English or home manufacture. I do not hesitate to assert, that goods of a superior quality always meet with early purchasers, because those who can afford to buy foreign goods always inquire for the best; and the more modern and fashionable the goods are, the better and the quicker is the sale. Thick broad cloths, in imitation of the Spanish San Fernando cloth, are best for the interior; and the thin cloth, in imitation of the French sedan cloth, is most suitable for Lima. The Manchester broad flannels, either twilled or plain, with a long nap, dark and light blue, crimson and pink, bright green, pale yellow, brown, white, and any shades or half colours, are very saleable commodities, either on the coast or in the interior. Kerseymeres, cords, and velveteens; Irish linens and common lawns cut into pieces of eight yards each, in imitation of the French bretagnes and estopillas; coarse linen in pieces of about thirty yards, imitating the German platillas; and fine Scotch cambrics, as well as table linen, sheeting, &c., meet a great demand. All kinds of cotton goods, particularly stockings, muslins, and fashionable prints of delicate colours; also dark blue prints with small white sprigs, &c., which are used for mourning by every class, are in common use among the poor; besides dimities, jeans, and white quilts (Marseilles), which are all very saleable articles. Silks, damask (crimson), ribbons, particularly narrow, and good velvets (black), are in great demand. Glass and earthenware, all kinds of hardware and cutlery (few forks), mechanics' tools, large hammers and wedges for the miners, spades, shovels, pick-axes, &c.; quicksilver, in the mining districts, also iron and steel, are saleable articles. Trinkets are not in much estimation, because the inhabitants seldom wear any that are not of gold and precious gems. Hats are well made in Lima, and the materials are of the best quality. Shoes and boots are another manufacture in which the natives excel, and their materials are tolerably good. The cordovans from Lambayeque are excellent. Drugs are extremely dear, for even those produced in different parts of the Spanish colonies are generally first sent to Europe, and thence back again, except, in Lima, the chinchona bark, sarsaparilla, copaiva balsam, guiacum, and some others, the produce of Peru."

The population of Peru is spread over a territory of vast extent; and there is here, as in other parts of South America, a total want of roads, canals, or bridges, to facilitate the transport of goods between distant parts. One great object of the independent government, will of course be to remove these insuperable obstacles to its prosperity,—to excite the industry of the people,—to stir them up to an anxiety for their own improvement. If the internal communications of the country were improved, a free market would be opened for its rude produce, and the great obstructions which at present exist to the prosperity of its agriculture, its mines, and its other branches of industry, would be removed.

CHAP. VII.—CHIEF CITIES.

LIMA, the capital of Peru, is situated in the valley of Rimac, in S. lat. 12° 2′, and W. long. 75° 52′. It was founded by Pizarro, in 1534, and denominated by him *Los Reyes,* or 'the City of Kings.' Its situation is pleasant, and its temperature cool, considering the latitude. The river which crosses the city is very pure and transparent, watering the whole valley, and forming streams as it passes through the city, which run to most of the houses and water their gardens. Lima is four miles long by two broad, and is surrounded by brick walls with ramparts and bastions. The streets are handsome and straight, but the houses are generally only one story high, on account of the frequent earthquakes to which they are exposed. Like all the other Spanish cities, Lima has a great square in the centre, where all the principal streets terminate. The houses are built chiefly of wood, and some of sun-dried bricks; the roofs are composed of reeds or canvass mats, which in a country where it never rains, and where earthquakes are frequent, are preferable to tiles or slates. In the great square stand the viceregal and archiepiscopal palaces, the cathedral, the *university, the treasury, the* arsenal, and the town hall. Trees are planted all round the houses, *to keep off the rays of the sun. The churches and convents are extremely rich, and many images* of the saints are of massy gold, decorated with jewels. The city contains 8 churches; the streets are 355 in number; and the houses 3,941. The population of Lima was estimated in 1810, at 87,000, of this number above 20,000 were whites, the remainder Negroes, Indians, and Creoles. The rich ecclesiastics, proprietors of entailed estates, military and civil officers, physicians, advocates, attornies, and artists, amount to nearly 19,000 of the population, the others being slaves or domestics. There are no manufactures of any kind; and the men, as usual in most cities of Spanish America, are inclined to sloth and indolence. Amusements are rare, and literature neglected. Cock-fighting is a favourite amusement of the inhabitants on Sundays, and bull fights are frequent.

This city labours under one great disadvantage, sufficient to outweigh the delightfulness of the vicinity and the salubrity of the climate, namely, its exposure to frequent earthquakes. The first material shock was in 1582, but not so dreadful as those which followed since. A tremendous visitation of this kind took place in 1586, which is still annually commemorated. Those which followed were in 1609, 1630, 1654, 1678, 1687, and six shocks between that period and 1746. The two greatest earthquakes were those of 1687 and 1746. The former began at four in the morning, and destroyed many of the houses; but when the inhabitants began to think that all further danger was over, about six, it returned with redoubled fury, and completely destroyed every house the former shock had left. During this convulsion the sea retired from the shores till it was out of sight, and then returned with vast billows, flowing far inland beyond its ordinary limits, and drowning many of the inhabitants. This shock was felt 150 leagues out at sea, by Wafer, so violently, that he at first imagined the ship to have struck on a rock. In 1746, the shocks commenced at half-past ten in the evening of the 28th of October, and were so violent, that in less than three minutes, by far the greater part of the city was in ruins. Its effects were felt in many towns along the coast; and at Callao, the sea-port of Lima, 6 miles distant, the fort was entirely demolished; but the mischief caused by the concussions of the earth, was not equal to that produced by the alternate recess and swell of the ocean. These followed each other repeatedly, each swell advancing farther into the country than that which preceded. The highest walls and buildings were overwhelmed by the waves. The inhabitants of the coast were all drowned. Of 23 ships then in the harbour of Callao, 19 were sunk; and the other four, one of them a frigate, were carried to a considerable distance inland. After the earthquake had ceased, 1,300 dead bodies were found, and many more died afterward, in consequence of hurts they had got. The last calamity of this kind with which Lima has been visited, occurred on the 20th of March, 1828, and although only of thirty or forty seconds duration, was of such prodigious violence as to prostrate many buildings, and injure all, including the stupendous churches, their massive walls of from six to nine feet thick being literally rent from top to bottom. The amount of injury in the city was estimated, by an official survey, at six millions of dollars. About thirty persons perished. The great shock was followed by 5 or 6 slight tremblings in as many days. At Callao the shock was felt after the dust was seen to rise from Lima, so that it would seem that it proceeded from the mountains to the sea. Those persons who were on board vessels in the harbour described the sensation to be the same as when a ship thumps violently against the bottom, and the noise like that produced by 'twenty chain cables running through the hawser holes.' The water was very turbid, and for a considerable time afterwards large air-bubbles came up in every direction.

The other chief towns in Lower Peru, which are situated on the sea-coast, or on banks of rivers, are—

Piura, with 7,000 inhabitants, 480 miles to the N. of Lima.

Sechura, which contains 200 houses, and is in lat. 5° 32′, S.

Paita, a small place on the coast.

Sana, 80 miles N. of Truxillo.

St Pedro and *Morrope*, both inconsiderable.

Lambayeque, on the high road to Lima, in 6° 40′ S. lat., and containing 8,000 inhabitants.

Truxillo, on the coast, 480 miles S. of Quito, 268 miles N.N.W. of Lima, and containing 5,800 inhabitants. Truxillo has been repeatedly subjected to the same disasters as Lima and Arequipa, the last having happened in 1759. The population of the district is estimated at 12,000. The bishop has a revenue of 25,000 dollars, or £5,625 sterling annually.

Guara, on the coast of the Pacific ocean, lat. 11° 3′, S., containing 200 houses.

Chancay, in 11° 33′ S. lat., 36 miles from Lima, containing 300 houses.

Canete, 18 miles S. of Lima.

Ica, or *Valverde*, containing 6,000 inhabitants, and trading in glass, wine, and brandy, 140 miles E.S.E. of Lima.

Pisco, formerly situated on the Pacific ocean, but having been destroyed by an earthquake, it is now rebuilt a mile farther inland. It contains 300 families.

Nasca has a fine harbour, 190 miles S.E. of Lima.

Arequipa.] This maritime city has been six times destroyed, and as often rebuilt, and yet still it was said to contain 40,000 inhabitants previous to the late revolution. The cause of all its misfortunes is the vicinity and eruptions of that vast nevado, the Omati, a central peak of a group of nevados. In 1600 it discharged lava and ashes with so loud a noise as to be heard all the way N. to Lima, 360 miles distant, and spoiled all the fruits of Peru. It lies in the valley of Quilca, 20 leagues from the mouth of the stream that waters it to the N.E. Though Chuquibamba be the capital of the district called Condesuyos de Arequipa, yet this latter has been a place of greater importance, from its excellent harbour and navigable stream, by means of which all kinds of merchandise can be easily brought up the river to the city, and carried overland by mules to the interior.

Arica, one of the northernmost towns in Peru, is situated in a beautiful valley in the Pacific ocean, in lat. 18° 26′, S.

UPPER PERU.] In Upper Peru among the mountains, we have the district of *Caxamarca*, to the eastward of Truxillo, lying between two parallel ridges of the Andes, namely, the lower one, near the coast, and the higher which is the main chain of the Andes, about 300 miles from the Pacific ocean. It is celebrated for its silver-mines, some of which are about 2,300 feet higher than the city of Quito. The population of the district is estimated at 46,000; and that of the city at 12,000 souls.

Chachapoyas is another district on the eastern slope of the Andes, bordering on Quito, which embraces an immense extent of country in a warm climate. East of this is a low, warm, and moist country, covered with forests, and mostly uninhabited. Gold is found on the banks of its rivers.

E.N.E. of Lima 103 miles, in lat. 11° 35′, S., is the city of *Tarma*, containing 5,600 inhabitants.

Guamalies is 150 miles E. of Truxillo; there are here manufactures of serges, baizes, and other stuffs; also a silver-mine.

Guailas is about 150 miles from Lima.

Caxatambo is 105 miles W. of Lima. The Indians manufacture baize and work silver-mines.

Conchucos, 120 miles N.E. from Lima, is also a manufacturing place, and its district contains numerous silver-mines.

Huancavelica, about 120 miles N.E. from Lima, is chiefly noted for the productive mines of quicksilver in its neighbourhood. It is 12,308 feet above the level of the sea, and is liable to storms of snow and hail. It was formerly one of the richest cities in South America, but now only contains 5,000 inhabitants.

S.E. of Lima 188 miles is *Guamanga*, containing 26,000 inhabitants, situated on a beautiful river. Its district contains 60 mines of gold, 102 of silver, and one of quicksilver.

North of Guamanga 20 miles is *Guanta*, near which were formerly very rich mines, now abandoned.

S.E. of Guamanga is the district of *Vilcas Guaman*, whence great quantities of woollens and manufactures are sent to Cusco.—There are several other districts in this neighbourhood situated amid the heights of the Andes, and abounding in mines of gold and silver.

Cusco.] If Lima be considered as the maritime metropolis, Cusco still deserves the honour of being accounted the inland capital. Proudly situated amidst the surrounding Andes, and justly boasting of its origin from the first of the Incas, Cusco yet retains the majesty of an imperial city. Its situation is unequal, on the skirts of various mountains, watered by the little river Guatanay, a tributary of the Apurimac. The population is more than 20,000 souls. The cathedral is large, rich, and handsome, superior to that of Lima, being formerly a hall of the Inca's palace, 450 feet long, by 150 feet broad. A nunnery now stands, where formerly lived the virgins of the sun. In the college of St Bernard, are taught philosophy, grammar, and theology. Having already mentioned its antiquities, they shall not be repeated. In size, Cusco is nearly equal to Lima, having a plain on the south and east, and mountains on the north-west. The municipality obtained great privileges from the emperor Charles V. The houses are mostly built of stone, and covered with very red tiles; the apartments are well distributed, and the doors richly gilded; while the furniture corresponds with the magnificence of the exterior.

BOLIVIA.

The republic of Bolivia, or High Peru, was erected into an independent state by a declaration of the citizens, of the 5th August, 1825, and named in honour of the great South American liberator, Bolivar. The district formerly belonged to Peru; but was detached from that country in 1778, and annexed to the viceroyalty of Buenos Ayres. The mother-country made a desperate effort to preserve her sovereignty of this part of her American possessions; but the revolutionists, aided by a Colombian force under Bolivar, finally triumphed in the contest.

Extent and Boundaries.] Bolivia lies between the southern parallels of 11° 54′ 46″ and 25° 30′. It is bounded on the N. and W. by Peru, the line of demarcation between the two states being traced in part by the Mamore and Exaltation rivers, the lakes of Roguaguado and Titicaca, and the cordillera of the Andes; on the S.W. by the Pacific; on the S. by Chili, from which it is separated by the Salado, and by Buenos Ayres; and on the E. and N.E. by Brazil, from which it is partly divided by the river Guapore. Its length from N.N.E. to S.S.W. is about 1,140 miles; and from the confluence of the Mamore and Guapore, to the embochure of the Salado, 930 miles.

Mountains.] According to Mr Pentland's survey of the Andes of Bolivia, it appears that the great chain of the Peruvian Andes divides itself between the 14th and 20th degree of S. latitude into two longitudinal branches, which are separated from each other by a great valley, or rather plateau, whose surface is elevated 2,033 toises, or 13,032 feet above the level of the sea, and whose northern extremity comprises the lake of Titicaca. The western chain separates the bed of that lake and the valley of Desaguadero from the coast of the South sea, and presents a great number of active volcanoes. Its geognostic constitution is essentially volcanic, whilst the eastern chain is entirely formed of secondary and transition mountains of mica slate, syenite, porphyry, red sandstone, red marle containing rock-salt, of gypsum, and small formations of oolitic limestone.

Eastern chain.] This chain separates the plateau mentioned above from the immense plain of Chiquitos and the Moxos, and the courses of the Rio Beni, the Madeira, and the Pilcomayo, from those which flow into the river Desaguadero and the lake of Titicaca. From the 14th to the 17th degree of latitude, the chain attains uninterruptedly the inferior limits of eternal snow. Many of its peaks surpass 20,000 feet in height, and it contains the most elevated summits of the Andes which have yet been measured. Those of Sorata and Ilimani, covered with ever-during snow, surpass all the gigantic peaks of Colombia, of Chimborazo, Cayambe, Antisana, and Cotopaxi. The Sorata is in the northern part of the eastern chain, in the centre of that part of its crest which is covered with constant snow, and rises from the centre of a group of Nevados, in 15° 30′ S. lat. It belongs to the Bolivian province of La Paz, and lies to the E. of the village of Sorata, the most remarkable place of the district of Larecaja. Its elevation was determined trigonometrically from the borders of the lake of Titicaca, 12,760 feet in height, and from other determinations made, at a less distance, of that portion of the mountain which rises above the line of perpetual snow. Its height was thus found to be 25,400 feet.

Ilimani.] This majestic summit, only second to that of Sorata, is situated, like the former, in the Bolivian province of La Paz, 20 leagues E.S.E. of the town of that name (16° 29′ 30″ S. lat. and 68° 32′ W. long.) Like Chimborazo, in the Andes of Quito, it is the most southern snowy summit of the eastern branch of the Andes to which it belongs. By astronomical observation, it is fixed between 16° 35′ and 16° 39′ S. lat., and between 67° and 68° W. long. It has 4 peaks on its summit arranged pretty nearly from N. to S., or in that of the entire chain. Mr Pentland only succeeded in measuring the most northerly of these peaks, and found its elevation to be 24,000 feet above the level of the sea, or 12,000 feet above that of La Paz. But one of its more southern peaks appeared more elevated by 250 feet, judging from the place where he stood. The bad weather prevented him from ascertaining the actual difference of height.

The determination of the height of Ilimani was made trigonometrically from the borders of a small lake at its base, and which was found barometrically to be 15,951 feet above the level of the sea. The length of the lake was in the first place trigonometrically determined by a good theodolite, and the angle of the mountain was then taken at the two extremities of the lake with one of Troughton's sextants and an artificial horizon. The operation was easy of execution, and the angles of elevation measured at the extremities of the base comprehended more than 22°: 1-25th of the arc measured was allowed for refraction. The highest point to which Mr Pentland himself ascended was 19,000 feet. A greater height he could not reach, not so much on account of the rarefaction of the atmosphere as for the number of rents which occur in the glaciers which must be crossed, for glaciers occur in this part of the Andes. A violent storm came on, which threw clouds of snow in his face, so that he was compelled to relinquish all hopes of carrying his barometer to the summit. The distance of Ilimani from the nearest part of the coast is 5° 30′, or 330 geographical miles; so that it cannot, like Chimborazo, be seen by navigators, the western range also intervening to conceal it from sight. Its geognostic construction is composed of secondary rocks, of transition slate, and mica slate, like the Alps of the Tarentaise and Maurienne in Savoy. Sir Edmund Temple has given a picturesque description of Ilimani, in his journey from the ruined village of Calamaca, on the road from Sicasica to La Paz. "By being on my journey," says he, "a full hour before day-break, I had an opportunity of beholding at sun-rise a scene of magnificence scarcely to be surpassed in the world, Its imposing effects upon my mind, when day first developed the object to my view, it is utterly impossible for me to describe; but the scene was this:—High in the blue crystal vault, and immediately before me, as I rode thoughtlessly along, I perceived a brilliant streak, resembling burnished gold, dazzling to look at, and wonderfully contrasted with the shades of night which still lingered upon the world beneath; for to us the sun had not yet risen, though the sombre profiles of the cordilleras might be distinctly traced through the departing gloom. Imperceptibly the golden effulgence, blended with a field of white, glistening in vestal purity, and expanding downwards, gradually assumed the appearance of a pyramid of silver of immeasurable base. I stopped in mute amazement, doubtful of what I beheld. Day gently broke, and the tops of distant mountains glittered in the early beams; the sun then rose, or rather rushed, upon the silent world in a full blazing flood of morning splendour; and at the same moment the stupendous Ilimani, the giant of the Andes, in all the pomp of mountain majesty, burst upon my view. My first feeling was a sense of delight, with an expansion of soul producing positive rapture. Never before did I feel myself endowed with equal energy, or experience such an elevation of sentiment. Never did I feel myself less, so quickly did that sentiment subside into devout rapture. Admiration, reverence, and awe, with a consciousness of human inferiority, were the mingled feelings of my heart in contemplating this terrestrial manifestation of the glory of God. Here—I exclaimed with fervour and delight—here do I behold the sublime and beautiful, spontaneously produced in the great page of nature by the omnipotence and providence of nature's God. Unprepared as I was at the time, besides being full 30 miles distant, it was altogether unexpected; and the glare of magnificence in which it so suddenly stood, and to appearance so closely, absolutely surpassing imagination itself, occasioned, in a strong degree, those sensations which a scene so truly imposing, in the midst of solitary grandeur, was well calculated to inspire." They who have witnessed and enjoyed wild and magnificent scenery such as this, must have also felt the transport it occasions; they will admit that a superior order of sentiment accompanies the contemplation of such wondrous works, and that, in the words of M. de Humboldt, it elevates the souls of those who delight themselves in the calm of solitary contemplation.

Between the parallel of the Ilimani and that 21° of S. lat., the eastern cordilleras do not present a single summit which enters the limits of perpetual snow, though several rise to 16,000 feet, and even higher, as the Cerro de Potosi, which belongs to it, has an altitude of 16,080 feet. At 21° 15′ is the Nevado de Chosolque, 12 leagues N.W. of Tupisa, the southern frontier of the Bolivian republic. But S. of this Mr Pentland met with several peaks covered with eternal snow. Between the 13th and 17th degrees of S. lat., Mr Pentland says that the inferior line of perpetual snow is seldom less than 17,000 feet on the flanks of the eastern chain of the Andes, or 1,253 feet higher than in the presidency of Quito—a result, as Humboldt remarks, probably owing, as in Central Asia, to the radiation of caloric arising from the great upland of Titicaca. The snow-clad mountains to the N. of Cochabamba, 17° 23′ S., do not precisely belong to the eastern chain of the Andes, but to a transverse chain which detaches itself from it, and prolongs itself to the E. across the fertile province of Cochabamba, lowering more and more till it terminates in the immense plains of Chiquitos. The Indian race of Yuracaraes inhabit its lower parts, and the natives call it the cordillera of Cochabamba; and it separates the valley of Gupai el Grande from the beds of the Rio Beni and the Mamore.

Rivers.] The S.W. extremity of Bolivia, between the Andes and the Pacific, is watered only by small rivers, amongst which is the *Loa*, which has a course of about 65 miles from N.E. to S.W. The *Desaguadero*, the principal tributary of the lake of Titicaca, rises in Bolivia. The country to the E. of the Andes sends its waters to the Atlantic. A branch which runs off from the cordillera, a little to the N. of Potosi, towards the S.E., and then towards the N., and enters Brazil under the name of the *Aguapehy*, separates the basin of the Amazon on the N. from that of the Plata on the S. To the former belong the *Mamore* and its tributaries, the *Chapare*, the *Tiamuchy*, the *Yacuma*, the *Guapey*, and the *Guapore;* to the second belong the *Pilcomayo*, the *San Juan*, the *Paspaya*, and the *Cachimayo*.

Lake of Titicaca.] This lake so famous in Peruvian story, may be denominated an Alpine, or rather an Andine lake, being situated in the high upland tract that lies between the two ranges of the Andes, and elevated several thousand feet above the level of the sea. It lies in the N.W. part of the province of Los Charcas, now belonging to Bolivia, between 15° 35′ and 17° 30′ S. lat. and 68° and 72° W. long. Its form is very irregular. Its greatest length from N.W. to S.E. is 150 geographical miles, while its general breadth is hardly one-third of the above space. It has a great many bays, or recesses, connected with the main body of the lake by narrow necks, and containing from four to six fathoms water, and from 70 to 80 fathoms in the middle. It is navigated by the largest ships, but is subject to storms and tremendous gusts of wind, descending in hurricanes from the lofty mountains amongst which it is embosomed. The first ship built upon it by the Spaniards, was immediately driven on shore by a violent gale; this was considered so ominous by the superstitious Spaniards, that many years elapsed before they ventured to build another. Ten or twelve large rivers fall into it, besides a multitude of smaller streams. It has no visible outlet Its water, though neither bitter nor brackish, is turbid, and has a disagreeable taste; it is, however, drunk by cattle, and even by the Indians. It abounds in fish and water-fowl, and its banks are covered with flags and rushes, useful for many purposes of domestic manufacture, and which are even employed in constructing bridges and canoes. The shores of the lake are populous, being thickly planted with villages. Helms, who journeyed from Buenos Ayres to Lima, declares that he had nowhere met with so picturesque a country as that skirting this lake. The scene was diversified with an alternation of hills and dales, intermixed with the richest of meadows, on which numerous herds of cattle, mules, horses, sheep, &c. were feeding. There are several islands in the lake; in the largest of which, the Incas formerly had a magnificent temple, dedicated to the sun, and enriched with the annual offerings of the Peruvians: this immense accumulation of wealth was thrown into the lake at the approach of the Spaniards, as also the great chain of gold made by the command of the Inca Huayna Capac, at the birth of his son, which was 233 yards round, and surrounded 6000 men, who had danced within it. Frequent attempts have been made by the Spaniards to fish up these treasures, but without success. There are many floating-villages of Indians in this lake upon *balzas*, in which they pass from place to place, as occasion requires. It is held in great veneration by the Peruvians, as the first abode of Manco Capac and his sister Oello, the first of their line of sovereigns of reputed divine descent. This lake is also denominated the lake of *Chucuito*, from a district of that name to the west of its shores.

Climate.] The diversity of climate in this country is very great, owing to the inequality of the surface. The temperature of the western mountains and campos is very low; epidemic fevers are common in the northern districts.

Soil and Productions.] The central portion of this country possesses the greatest agricultural capabilities; its soil and productions are similar to those of Peru.

Mine of Potosi.] The famous mine of Potosi now belongs to this state. The mountain in which it is situated is called *Hatim Potocsi*, or 'Father mountain.' This mountain is of a conical shape, 20 British miles in circumference, and 4,475 feet in height above the surrounding country. The mountain of Potcsi principally consists of a yellow and very firm argillaceous schist, full of veins of ferruginous quartz, in which silver ore, and sometimes brittle vitreous ore, are found interspersed. There is also a grayish brown ore, in which appears some small grains and thin branches or veins of silver running along the layer of stone. This latter ore is very rich, yielding from 18 to 20 marks per *caxon* of 5000 lbs. weight. This surprising mine was discovered in 1545, by a Peruvian named Hualpu, who, in pursuing some goats among the rocks, in his ascent, grasped a bush, whose roots giving way, disclosed to his view an immense vein of silver, which since his time, has been denominated *La Rica*, or 'the Rich.' For some time Hualpu concealed the discovery from all his friends, and only resorted to this treasure to supply his occasional wants. The obvious change in his fortune however, had excited the suspicions of one of his Indian friends, who with difficulty wrung from him the valuable secret; but who soon after, upon some quarrel with Hualpu, revealed it to his master, a Spaniard. No sooner was it made known, than the mine was opened; and it was formally registered on the 21st of April, 1545. Since that time, it has been constantly wrought. The mountain is now almost entirely excavated, and is perforated with more than 300 pits, few of which, however, are more than 70 yards deep. It is now opened at the base, and vaults dug horizontally penetrate its interior, and meet the veins of silver. In these [illegible]s, called by the miners *sacabouas*—and which are about six feet high, and eight feet broad—the air is cold and unwholesome; and there the Indians, to the number of 2000, work alternately day and night, for the small wage of 2*s.* daily, deprived of the light and heat of the sun, and entirely naked, to prevent them from embezzling any of the ore. On the first discovery of the mine of Potosi, the metal was much purer than at present, being now greatly reduced, and even inferior to many of the other mines. It is the abundance of the ore alone, which renders it worth working. According to Acosta, the Jesuit, the average wealth of the ore in 1574, in the crude state, was from eight to nine marks per cwt., and the minerals which yielded 50 marks per cwt. were considered as extremely rich. Since the commencement of the 18th century, however, they reckon only from three to four marks per caxon of 5000 lbs. weight, or $\frac{48}{100}$ to $\frac{64}{100}$ per cwt. It hence appears, that the mean riches of the minerals have diminished in the proportion of 170 to 1; while, what is most surprising, the quantity of silver extracted from the mines of Potosi, have diminished only in the ratio of 4 to 1, as is seen from the calculations of Humboldt.

What quantity of silver has been extracted from the bowels of Potosi, since its first commencement, in 1545, down to the beginning of the present century, it is impossible precisely to determine, and hence various estimates have been given by various authors of acknowledged celebrity. From 1545 to 1556, there are no records of the royal duties, and no other information can be obtained respecting their produce in this incipient period, but from the meagre, accidental, imperfect, and contradictory accounts of early or contemporaneous writers. Where the necessary information is wanting, exaggerations are generally sure to be made. Ulloa, who proceeds upon the authority of Sandoval, a writer in the 17th century, who pretended to give an account of the mineral produce of Potosi from 1545 to 1634, from the fifth paid into the royal treasury, estimates the silver produced (on his authority) from 1545 to 1556, at 613,000,000 dollars, or £137,925,000 sterling, or an annual average of 55,727,272 dollars, or £12,538,635, 16*s.* 9*d.* sterling, making a mass of silver equal to 72,116,000 marks, or 47,330,810 lbs. troy, of 12 ounces; a sum this, nearly exceeding by one half the whole annual registered produce of gold and silver in all Spanish America. It is this prodigious exaggeration of the first period by Sandoval, which has misled not only Ulloa, but the Abbe Raynal, and our countryman Robertson, the celebrated historian of South America, who actually estimated the gold and silver received from Spanish America, up to 1775, at the enormous sum of £2,000,000,000 sterling. But the laborious Humboldt gives a very different statement, founded upon good authority, as he was enabled to procure from official papers, an account of the value of the royal duties paid into the provincial treasury at Potosi, on all the silver brought to the mint between the year 1556 and 1789, a period of 233 years; and the proportion of these duties to the whole produce being known, the annual amount of the silver extracted from the mines during this period, with the exception of what was carried away by the contraband traders, can be easily ascertained from these accounts. According to the calculations of Humboldt, deduced from the scattered and incidental information derived from Cieca, Alonzo Barba, and Acosta, who lived towards the middle and latter end of the 16th century, the estimate of the silver extracted from 1545 to 1556, is greatly over-rated by Sandoval; and hence he conjectures the whole produce of the mines of Potosi, during this first period, not to have exceeded 15,000,000 marks, or 127,500,000 dollars, or £28,687,500 sterling, valuing the piastre or dollar at 4*s.* 6*d.* He candidly admits, however, that there is no certainty in the correctness of that statement, as resting more on hypothetical reasoning than direct proof. The produce of Potosi may be divided into five periods, namely, from 1545 to 1556, from 1556 to 1578, from 1579 to 1736, from 1736 to 1789, and from 1790 to 1803. From 1545 to 1st January, 1556, the whole produce is estimated by Humboldt at 15,000,000 marks, or 127,500,000 dollars, or £28,687,500 sterling, averaging annually 11,590,909$\frac{1}{11}$ dollars, or £2,607,954 10*s.* 10*d.* sterling. From the 1st of January, 1556, to the 31st of December, 1578, a duty of one-fifth was paid on all the silver brought to the mint of Potosi. This duty amounted, during the above period of 23 years, to 9,801,906 dollars; which, multiplied by five, gives a total produce of 49,009,530 piastres, or 5,765,827 marks of silver, equal in British money to £11,027,144 5*s.* sterling, averaging 2,130,849$\frac{3}{23}$ dollars, or £479,260 6*s.* 6*d.* sterling, annually. From the 1st of January, 1579, to the 20th of July, 1736, including a period of nearly 158 years, a duty of 1½ per cent. was paid, and afterwards the fifth, on the remaining 98½ dollars, making 23 per cent. on the produce. The amount of these duties, for this period of 158 years, was 129,417,273 piastres; which gives a total produce of 610,458,835 dollars, or 71,813,636 marks, and an annual average produce of 3,888,272 dollars, or 455,991 marks, equal to £874,860 17*s.* sterling annually, and a total of £137,353,110 18*s.* sterling. From the 20th of July, 1736, to the 1st of December, 1789, 1½ per cent. of duty, and the half of the fifth, were paid; and during this period of 53 years, the duties amounted to 14,542,684 piastres. This gives a total of 128,129,374 dollars, or 15,074,044 marks of silver, and an annual average produce of 281,758 marks, or £543,944 8*s.* sterling; making, in this period, a total of £28,829,109 sterling. From the 1st of January, 1790, to the 1st of January, 1804, there is no account of the royal duties; but according to the records of the mint, the produce amounted to 46,000,000 dollars, or £11,350,000 sterling, making an annual average of 3,285,710 dollars, or £739,284 15*s.* sterling.

The whole of the sums collectively, from 1545 to 1803, amount to 961,097,739 dollars, or £216,246,990 10*s.* But to this sum an addition of two sorts must be made, the one from the high comparative value of the piastre, or dollar, in the latter end of the 16th century, and the other from the prodigious quantity of the precious metals not registered at the mint. From 1545 to 1600, the piastre was estimated at 13½ reals, instead of 8 reals, which since 1600 has been the value of the dollar or piastre. The piastre was consequently then valued at 7*s.* 7⅛*d.* of our money, supposing its present value at 4*s*, 6*d.* Therefore 3*s.* 1⅛*d.* must be added to every piastre coined from 1545 to the 1st of January, 1600; and as the quantity coined during that period, amounting to 320,000,000 piastres, or dollars, according to Humboldt's estimate of the period from 1545 to 1556: and according to the relation which the duties bore to the sum annually coined from the 1st of January, 1556, to the 1st of January, 1600, the addition of 3*s.* 1⅛*d.* on every piastre of that total, will amount to 220,000,000 dollars, or £49,500,000 sterling; thus making the whole of the registered produce for the first 55 years amount to 560,000,000 dollars, or nearly 10,000,000 dollars annually. This sum of 220,000,000 dollars additional to the sum total mentioned above of 961,097,739 dollars, will make the total registered produce of Potosi, from 1545 to 1803, amount to 1,181,097,739 dollars, or £265,746,991 10*s.* sterling. We are unable precisely to ascertain when the change of the value of the piastre took place, and therefore cannot precisely ascertain the quantity of silver which was produced at this period; but it seems either to have been a little before or after the year 1600. As to the amount of the quantity of contraband, authors are not exactly agreed, some stating it at a third, others at a fourth, and others again at a sixth of the whole produce. All, however, are agreed that the quantity of unregistered silver during the first period was enormous; as according to Herrera, Acosta, and Azara, more than a third was never registered. Allowing one-fourth of the whole sum of 1,181,097,739 dollars, the result will be 295,274,435 dollars, or £66,436,749 sterling. This added to the sum total of the registered produce from 1545 to 1803, will make the sum total of silver, registered and unregistered down to 1803, extracted from the mountain of Potosi, amount to 1,476,372,174 dollars, or £332,183,749 11*s.* 8¼*d.* sterling. The following table will show the produce, registered and unregistered, of the mines of Potosi, down to 1803:

Years.	Marks.	Dollars.	Pounds Sterling.
From 1545 to 1556	15,000,000	127,500,000	28,687,500
— 1556 to 1578	5,765,827	49,009,550	11,027,144 5s.
— 1578 to 1736	71,818,686	610,458,835	137,353,237 17s. 6d.
— 1736 to 1789	15,074,044	128,129,374	28,829,109
— 1789 to 1803	5,411,764	46,000,000	10,350,000

Years.	Marks.	Dollars.	Pounds Sterling.
Total in 258 years -	113,070,321	961,097,739	216,246,991 10s.
Allowance for the value of the piastre before 1600 -	26,351,765	220,000,000	49,500,000
Add one-fourth of the above total registered produce for contraband - - -	34,738,110	295,274,435	67,436,749
Total of registered and unregistered produce extracted from the mines of Potosi, from 1545 to 1803 - -	174,160,196	1,476,372,174	332,183,749 11s. 8¼d.

The most flourishing period of the mines of Potosi, during the period *from 1556 to 1789, was that from 1585 to 1606. For several successive years, the royal fifth amounted to 1,500,000 dollars, which supposes a* produce of 1,490,000, or 882,000 marks, according as we estimate the piastre at 12½ or 8 reals, equivalent to 12,665,000 or 7,497,000 dollars. *After 1606, the produce gradually diminished, especially since 1694. From 1606 to 1688, its annual produce was never below 350,000 marks, or 3,015,000 dollars. During the latter half of the 18th century, it generally supplied from* 300,000 to 400,000 marks, an yearly produce this, too considerable to allow us to advance, with Robertson, that these mines are no longer worth working. They are not, indeed, the first in the known world, but they may still be ranked immediately after those of Guanaxuato, in Mexico. That they do not yield so much as formerly, is not at all owing to their exhaustion, but to the ignorance of the Spanish miners, by whose unskilful management most of the pits are allowed to remain full of water. Steam engines, the powers of which are so well understood in this country, are here wholly unknown. In the opinion of Helms, the mines of Potosi might easily be made, with moderate skill and management, to yield 20,000,000, or even 30,000,000 dollars annually. In addition to 2,000 Indians employed as miners, there are 15,000 glamas, and 15,000 mules, employed in carrying the ore from the mountain of Potosi to the amalgamation works.

Commerce.] The most important commerce of Bolivia consists in the export of grain to Peru; but the roads are bad, and communication is therefore greatly impeded. The only port Bolivia possesses is the small harbour of *Cobija* on the Pacific.

Population.] The population of this state is estimated at 1,300,000. Its military force consists of 12,000 men. *The Indian tribes of Bolivia are generally of errant and warlike dispositions, particularly the Chiquitos.* The state religion of Bolivia is the Roman Catholic. It is divided into 7 departments, viz.:

Charcas,
Cochabamba,
Moxos,
Chiquitos,
Santa Cruz de la Sierra,
La Paz,
and Potosi.

Chuquisaca.] This is the capital of the state of Bolivia, at least was so in 1827.. It is also called La Plata, and was formerly the capital of Los Charcas, an extensive province comprehending all the S.E. of Peru. It lies in a valley watered by the Chachimayo, a head branch of the Pilcomayo, at 2 leagues' distance from which stands the town. Though not the most populous, it is at least the neatest, most cheerful, and respectable place on the whole line of road from Buenos Ayres to Lima. Long. W. 66° 46′, and 19° 30′ S. lat.

Potosi City.] Next in importance to Chuquisaca, the capital of Bolivia, is the city of Potosi, and once the most populous of all the cities of South America, and which covered with its suburbs a vast extent of ground at the base of that celebrated mountain whence it takes its name, and which is half an hour's walk from the square of the city. These suburbs are now in ruins, and the entire population is now reduced to 12,000. It stands in a cold, bleak, barren, very mountainous district of the eastern chain of the Andes, enclosed by the province of Porco, and in a glen watered by a rivulet, one of the sources of the Paspaya, a branch of the Pilcomayo. The country around is the most barren in nature, neither tree, nor shrub, nor plant appearing for many miles around; and it is not till the *distance of five leagues has been traversed that patches of cultivation begin to appear on the road to Chuquisaca,*—yet what has not the attracting influence of a mountain of silver,—of itself a mountain incapable of producing a single blade of grass,—created! The barrenness of the soil is balanced by the abundance of its metallic produce; and plenty of provisions of all kinds, whether animal or vegetable, are brought from a distance on mules and asses to supply the wants of its population. Beef, mutton, and pork, are all to be had in the market, with abundance of fruits and vegetables, some of which would be esteemed in Covent Garden, and others such as Covent Garden can never boast of. Many varieties of potatoes are brought to market. This plant, to which, as Temple remarks, Cobbet has so great an aversion, is in general use throughout Peru, and as highly esteemed as in Ireland; it is called *papa* in the language of the country. It is the principal food of the Indians, or rather its chief ingredient, for they understand the art of cookery much better than the lower class of Irish, who pretty generally exist upon the simple potatoe and salt, in many cases without *a sup of milk*, and sometimes, such their poverty, without even *a grain of salt* to relish their mawkish meal! The Indians, on the contrary, prepare their *olla* (round earthen pot) in a very savoury and substantial manner. Their native lama affords them meat, salt is obtained in sundry districts in immense blocks, Guinea pepper they have in abundance. To these the papa is added in considerably the greater portion, also maize or Indian corn; so of course the composition affords a rich, delicious, and solid meal. Another species is made from the potatoe called *chunu*, which is considered a great delicacy, and much esteemed in the days of the Incas. The potatoes are first thoroughly freezed, then pounded and dried in the sun, in which state they will keep even for years, and form a substantial and nutritive aliment. The climate of Potosi, which may be considered as a fair specimen of that of the Upper Andes, is very variable, presenting each day the changes of the four seasons of the year, varying from 66° of Fahrenheit to 42°. Early in the morning it is cold and piercing, the forenoon resembles our finest March day, from noon to three o'clock the sun is broiling hot, whilst in the shade it is very cold, the evenings serene, and sometimes of a summer's mildness. The Creoles consider the climate of Potosi an eternal winter, which they divide into the wet winter and the dry winter; but the Indians, though half naked like the Irish peasantry, are not nearly so sensible of the cold as the Creoles. But in Temple's opinion, and that of all other British who visit Potosi, the climate is considered as fine, wholesome, and bracing. For five days out of six, Potosi enjoys a fine, brilliant, unclouded atmosphere, a spotless canopy of the deepest and purest azure,—and so dry is the atmosphere, that, in pulling off a flannel waistcoat or worsted stocking in the dark, sparks are distinctly seen; and the same in patting or rubbing a horse's neck, which sometimes emits sparks and sounds like an electrifying machine. Difficulty in breathing; arising from the great rarity of the atmosphere, is common both to the natives and animals. For this reason, horse-racing cannot be attempted here, and there are many instances of horses dropping down and expiring when pressed up a hill. Snow and thunder storms are frequent, and the latter are sublime and terrific. As this city may be said literally to be above the clouds, the blue lightnings dart round in ten thousand dazzling flashes, and lose themselves in the ground; whilst the thunders roll from mountain to mountain in long continued peals, absolutely stunning to the senses, and baffling the powers of description. Dense clouds of the blackest hue, with brilliant mixtures of blue and green, beautify the scene of awful magnificence, whilst the storm rages and blazes in the valley beneath. As at Lima, where earthquakes are frequent, such storms are unknown; so, on the contrary, at Potosi, where the latter are common, the former are unknown. A family from Lima, who were residing at Potosi whilst Temple was there, were particularly alarmed at the thunder storms of that place: Temple, asking the reason why they, who had given him so many accounts of the dreadful earthquakes they had experienced, should now feel so very much affrighted at a thunder storm, was instantly interrupted by the fervent exclamation of the whole family: "Holy Virgin, mother of God, remove us out from this terrible scene, and place us, if thou wilt, amidst all the earthquakes in the world!" Sometimes during a snow storm, when the ground is literally covered with snow, the lightning and thunder are tremendous. The forked lightning, glistening alongst the snow-covered earth, which resembles a blazing sea, renders this novel species of thunder storm dreadfully magnificent to a European, those of Europe being mere summer flaws compared to them. The mountain itself rises above the town like a colossal sugar-loaf, of a reddish brown colour, to the height of 2,730 feet, and which, though half an hour's walk distant, yet seems so close, that, were it to fall over, it would, to all appearance, overwhelm the city. It is two hours' ascent to the summit, which Temple accomplished, though with great difficulty, from the extreme tenuity of the atmosphere, and had the pleasure of enjoying, like the academicians on the summit of Pichincha, the delectable view of a snow and thunder storm raging far beneath them, whilst the sky immediately above him was serene and clear. The snow storm burst first over the summit in a tremendous crash of thunder, which rolled round in a circle, and then descended to the plain beneath. The lightning darted with a whizzing noise round the base of Potosi, and every flash was followed by a deafening peal as quickly as the report of a gun follows the ignition of the powder. All strangers are, on their arrival at the city, seized with a severe illness from the change of climate, generally an attack of dysentery, from which if they recover, which is generally the case, they enjoy afterwards good health. On the side next the town, and at the base of the great mountain, is a smaller, called *Huayna Potocsi*, or 'the son of Hatun Potocsi.' It facilitates the ascent to the greater, but does not partake of its mineral riches, almost every stone of which is metalliferous. In the large mountain are not less than 5,000 *bocas minas*, or mouths of mines, but they are not distinct mines, for several of these have two and some three entrances or mouths, which may serve to give some idea how the Cerro has been perforated. The mountain is not of volcanic origin, as some have asserted, as not the smallest trace of volcanic matter has been seen about it. The city at first sight appears very clean and handsome, as all the outsides of the houses are white-washed. But this is mere deception, for in the insides every thing is filthy, with a few exceptions even in the first-rate ones, some of which, like the Augean stable, have not been cleansed for 30 years. The Indians, who compose one-half of the dwellers, are in every sense of the word *a swinish multitude*, and their superiors are not a great deal better. The churches, whose walls were once in some instances literally decorated with *silver*, are now *plundered*, *dismantled, and deserted*. The mint, an *immense and uncouth pile*, erected at the expense of two millions of dollars, in 1562, still remains. On one side of the *Plaza major*, or square, is the government-house, a long low range of building, and on the other stands a prodigious mass of gray granite, intended for the cathedral, but not yet finished. In the middle is a precious sample of architectural taste and skill, which Temple supposed to be a shot-manufactory; and on inquiring if his way was not past the big chimney, was told it was a national monument in honour of Bolivar! In the vicinity of the town, from 8 to 10 miles distant, are the lagunas or ponds for supplying the Ingenios and the town with water, in number 37, and constructed 200 years since at enormous and needless expense; for within 2 miles of the town are situations equally eligible for forming reservoirs—or even one such, capable of containing water sufficient to supply all the machinery of the mines, and the town itself, with that indispensable article. Considering the barren state of the country round Potosi, and its distance from markets, the price of articles of necessity or luxury is not very exorbitant. Maize and papas, the common food of the ordinary classes, are cheap. A sheep with the fleece may be had for 4*s*., fowls 1*s*. 6*d*., and partridges 1*s*. each. Butter is brought from a great distance in bladders, and sells for from 5*s*. to 6*s*. per lb., the quality such as would serve to grease cart-wheels in Scotland. The best loaf-sugar comes from Cusco, and is sold at from 2*s*. to 2*s*. 6*d*. per lb. Tea, of which green only is to be had, comes from the ports of the Pacific, and is from 16*s*. to 24*s*. per lb. Peruvian chocolate, excellent, from 3*s*. 6*d*. to 4*s*. per lb. Peruvian coffee, excellent, 8*s*. per lb. roasted and ground. Wines are seldom used but at large dinner parties: claret 12*s*. per bottle; champagne from 12*s*. to 16*s*. per do.; English cyder from 6*s*. to 8*s*. per do. The valley of Cinti, 50 leagues from Potosi, produces very good wine at from 2*s*. to 2*s*. 6*d*. per bottle, and which, if properly manufactured, might surpass Burgundy itself. For 20 leagues the valley of Cinti is a continued vineyard, with a stream running through its centre, the banks of which are crowned with peach, fig, and other fruit trees. Rum and brandy at from 8*s*. to 10*s*. per bottle. Bottles were lately so scarce at Potosi as to bring a dollar each, but they are now fallen to 1*s*. each. There is not a single medical man in all the city, and medical drugs are excessively high, although the valleys of the Andes abound with medicinal plants. From the profound ignorance that reigns here, and the total want of literature, there is no society in the world so uninteresting as that of Potosi. There are neither books nor amusements. Society is confined literally to two or three families of two or three persons, where sometimes companies meet for half an hour on an evening to sip *mate* (Paraguay tea) through a tube, hear a guitar gingled, or set on a bench against the wall, wrapped to the chin in cloaks, replying *se senor* to every one's tale about the severity of the cold south winds. The ladies, squatting on a rug upon the floor, huddled in a corner, and covered up in their woollen mantles, occasionally press the visitors to take another *mate*, but complete the scene of ennui by their total want of occupation. As to male society, where two or three meet together, the whole talk is about mining. Go where you will, turn where you will, nothing is heard of but the proceedings of the Ingenios, the good or bad run of a newly discovered vein, the superiority of a certain mine ; so that, unless a person has himself been a miner, it is a perfect *tædium vitæ* to live amongst a race who think there is no other business in the world but mining ; and in that case, the city of Potosi, affording no sort of recreation, is little better than a place of banishment, hardly preferable to Siberia itself. There is a considerable consumption of French and English manufactures in Potosi, but by far the greater proportion are the latter; consisting of coloured cottons, calicoes and muslins, cloths, crockery-ware, iron and steel,—all for the consumption of Potosi and its immediate vicinity. The duties on imported European articles amounted to 16 per cent., and the whole amount of duties received in 1825 was 21,880 dollars. But in 1826, the duties being reduced one-half, or 8 per cent., the amount on goods imported *via* Buenos Ayres and the Pacific was 38,781 dollars,—thus making an increase of consumption, and 11,000 dollars of additional revenue in the single town of Potosi.

La Paz.] This place, in respect of situation, is one of the most remarkable in all South America. It lies in a ravine, so deep, narrow, and steep, that it is quite concealed from the view of the traveller till he suddenly arrives on the very brink of this quebrada, without well knowing how he is to descend to a town so close below him as if he could throw a biscuit into it from the top of the heights. Suppose yourself, says Temple, travelling leisurely along a high table, or any other plane you may like better. This is bounded by a huge mountainous rampart, in which, be it remembered, is one of the greatest, grandest mountains on the globe, and far surpassing those wonders of the world chronicled by fame. Ilimani, the Giant of the Cordillera de los Andes, cannot be considered in any less character. These mountains appear to rise out of the plain on which you are riding, and your expectation is that you must actually arrive at them, for no obstacle is to be seen betwixt you and them. Whilst you are musing on the *how* and *where* your journey is to end, you arrive unexpectedly at the edge of the plain, and behold a vast gulf at your feet, in the bottom of which appears a town very regularly built with packs of cards. The *coup d'œil* of La Paz conveys precisely this idea, the red tiled roofs and white fronts of the houses answering admirably for hearts and diamonds, whilst the smoked roofs and dingy mud-walls of the Indian *rancios* equally well for spades and clubs. Through this fairy town may be faintly seen, winding with occasional interruptions, a silver thread, marked with specks of frothy white, which, upon approaching, proves to be a mountain torrent, leaping from rock to rock, and sweeping through the valley. In casting an eye farther round, you perceive squares and patches of every shade of green and yellow, which to a European is perhaps the most striking part of the interesting scene. Corn, and fruit, and vegetables, and crops of every kind, may be seen in all their stages, from the act of sowing to that of gathering in—here a field of barley luxuriantly green—there another in full maturity, which the Indians are busily reaping—next to it a crop appearing just above ground—farther on another arrived at half its growth—beyond it a man guiding a pair of oxen yoked to a shapeless stick, the point of which scratches the earth sufficiently for the reception of the seed, which another man is scattering in the furrows—trees bearing fruit, and at the same time putting forth buds and blossoms, complete the scene of luxuriance. Here is seen, in the full beauty of truth, the charming landscape depicted by Marmontel in his interesting tale of the Incas. Yet it is only required to raise the eyes from the lap of this fruitful Eden to behold the widest contrast in the realms of nature. Naked and arid rocks rise in mural precipices around; high above these, mountains beaten by furious tempests frown in all the bleakness of sterility; higher still, the tops of others, reposing in the region of eternal snow, glistening with undiminished splendour in the presence of a tropical sun. After a descent of three miles, which it requires three quarters of an hour to accomplish, you reach the bottom of the ravine; and instead of finding La Paz built on a flat, as you supposed from the summit overhanging the abyss, you find it really built on hills, with some of its streets extremely steep. Whilst looking up, you behold the huge *condor*, with his broad expanded wings, soaring over the gulf in which stands this singular place, which deeply engulfed as it seems, and really is, is still 12,194 feet above the level of the sea. La Paz is a bishop's see, containing, besides the cathedral, 4 churches, 5 convents, and 3 nunneries. The torrent which waters the ravine is a head branch of the mighty Beni, or main stream of the Maranon: and in falls of rain forces along huge masses of rock, with large grains of gold. It is the great emporium of Peru, as all merchandise from the Pacific is conveyed thither, then carried off by merchants great and small to the towns and villages of the interior; and Temple, who was there in 1827, confesses that, since he strolled down Cheapside a year before, he had not seen such crowded streets, or so much bustle in the transactions of business. British goods were abundant, and preferred to the French and German manufactures, which seemed, however, to have a very fair share of the market. Every sort of flimsy tinsel and gewgaw, and whole cargoes of divers kinds of worthless articles, unsaleable at home, were at first exported by European merchants, in hope of finding a ready market here; but all such articles will now no longer take the market. It is quite delightful to stroll at an early hour through the files of peasantry in the fruit and vegetable market of La Paz, where they display their baskets filled with the luxuriant produce of their gardens, where Temple purchased pine apples, strawberries, bananas, plantains, oranges, tunas, and he knew not what besides, all for 1*s.* 6*d.*, and of excellent quality, the strawberries excepted, which, in point of flavour, are far inferior to those of the gardens of Europe. Vineyards abound in the vicinity, which produce very good light wine. It drives a great trade in mati, or Paraguay tea, the sale of which here produces 200,000 dollars annually. The district abounds in gold. In 1681, a mass of rock having been detached by a stroke of lightning from the vast mountain Ilimani, so large a quantity of gold was extracted from it, that it was sold in this city for 8 dollars, or 36*s.* per ounce, or precisely one-half the then current price of gold in Peru. About a league from the city an Indian found, in 1773, a large mass of solid gold, which he sold to the Spanish viceroy for 11,269 dollars, or £2,535 sterling. According to Helms, La Paz contains above 20,000 inhabitants, and is distant 350 miles by the road from Potosi; and it may be here mentioned, that from about 4 posts to the S. of Potosi, all the way to La Paz, scarcely a tree is to be seen through a distance of near 500 miles: but a few leagues beyond La Paz is a district called Yungas, where, in forests producing the famed Peruvian bark, are various kinds of the finest timber. Lat., according to Pentland, 16° 29′ 30″ S., and W. long of Greenwich 68° 32′.

Oropiza or Cochabamba.] This is the capital of the rich and fertile district of Cochabamba, and is so called from the gold found in its vicinity. It lies in a fertile valley, near the source of the Rio Grande, the head branch of the Madeira. The district being the very granary of Bolivia, this city drives a great trade in grain, fruits, and vegetables, and contains 17,000 inhabitants, amongst which are many rich and noble families: 89 miles N.N.W. of Chuquisaca, from the valley of which it is separated by a lateral branch of the Eastern Andes.

Oruro.] Oruro was once a place of note, with 8,000 inhabitants, but now reduced to less than one-half from the destruction of the tin and silver mines in its vicinity, which formerly supported a brisk and extensive commerce, but now nearly extinct from want of those resources which were absorbed in the all-consuming evils of civil war. The tin mines were long famous, and those of silver were once among the most productive in Peru. But, of late years, being abandoned, they have filled with water, which they have neither machinery to employ, nor money for applying any other method to carry it off. Here were many families of enormous wealth. Rodriguez, the late head of one of these, was proprietor of a famous silver mine in the vicinity, so productive, that he discarded from his house all articles of glass, delft, or crockery ware, and replaced them by others made from the silver of his mine. Utensils of the most common use, as well as those of luxury and ornament, such as pier tables in the principal apartments, frames of pictures and of mirrors, footstools, pots and pans, were all of silver. Said a native to Temple, who was there in 1827, "Do you see that trough in the court yard?"—(pointing to a very large stone trough for watering mules and other animals)—"I do assure you that Rodriguez had two of much larger size for the same purpose, of pure and solid silver; and before the revolution, there were three or four houses in Oruro that could boast of having quite as much." Oruro is 180 miles N. of Potosi, in a barren and level plain, bounded on the W. by the snow-covered Andes.

Sicasica.] Sixty three miles N. of this, on the road to La Paz, is Sicasica, a neat respectable town, capital of a large district of the same name, once containing about 4,000 inhabitants, but now not as many hundreds, being ruined by the revolution. In its vicinity are several silver mines, which have been worked, and which may still be worked to great advantage. Flocks and herds, which before the revolution grazed in the valleys and sides of the mountains, have disappeared, and desolation and poverty are everywhere manifest. It stands near the source of the Beni.

Tupisa.] This is a respectable little town on the road from Potosi to Buenos Ayres, where a traveller can supply himself with every thing he requires, and is also the southern frontier of the Bolivian republic, where duties are levied on goods, and the baggage of travellers is inspected. It is situated 150 road miles to the S. of Potosi, at the base of a lateral ridge of the Andes.

BRAZIL.

Name, Boundaries, and Extent.]—The name Brazil, which was for a long time restricted to that narrow though long-extended portion of the American coast extending from the mouth of the Maranon nearly to that of the La Plata, is now applied as a generic term, to designate all the Portuguese possessions in this quarter of the globe, comprehending the tract between the sea and the mountains, originally denominated Brazil,—the greatest part of the interior country, formerly called Amazonia,—and the extensive territory to the N. of the Maranon, called Portuguese Guiana. When first discovered by Cabral it was denominated by him *Tierra del Santa Cruz*, or 'the Land of the Holy Cross.' This appellation was very soon superseded by its present name, derived from *braza*, a very valuable species of wood with which this country abounds.

The flourishing kingdom of Brazil comprehends almost a third part of the whole South American continent. It is bounded on the N. by French Guiana and the Colombian Caraccas; on the N.E. and S.E. by the Atlantic; on the S. and S.W. by Buenos Ayres; and on the W. by Peru and the Colombian New Granada. The maritime boundary of Portuguese America is the Atlantic, from the mouth of the Oyapoco, or Wiapoco, in about 4° N. lat., to the mouth of the Chuy, in S. lat. 34°,—a space of 38 degrees of a great circle, or 2,280 geographical miles, equal to 2,620 British miles. But if the windings of the coast be included, the extent is not less than 3,670 British miles, namely, from the mouth of the Oyapoco to Cape St Roque, in a S.E. direction, 1,260 British miles; and from the above cape—which is the most eastern point of South America—to the river Chuy, 2,410 miles in a S.W. direction. The Oyapoco and the southern flank of the Tumucurac and Acaray mountains separate Brazil from Guiana. The boundary line with Colombia commences not far from the confluence of the Rio Rupuwini and the Essequibo; runs along the western side of the cordillera of Pacaraimo, touching successively on Santa Rosa in N. lat. 3° 45′, the sources of the Orinoco in lat. 3° 40′, the sources of the Rio Marae and Idapa in lat. 2°, and traversing the Rio Negro to the isle of San Jose in lat. 1° 38′; continues to the W.S.W., across unexplored plains, to the Gran Salto of the Yupura near the embochure of the Rio de los Engannos in S. lat. 0° 35′; and then turns suddenly S.E. to the confluence of the Rio Yaguas and Putumayo in S. lat. 3° 5′. From this point the frontier line runs S. to the Amazon, and then along the eastern bank of the Javari, the course of which river, from 4° to 9° 30′ S. lat., forms the frontier with Peru. From the parallel of 9° 30′ it runs to the left bank of the Rio Madeira, passing successively the Yutay, Yurba, Tefe, Coary, and Puruz rivers. It then remounts the Rio Madeira to its confluence with the Mamore in 11° 54′ 46″ S. lat.;

then turns S.E. to Villa Bella; then S.S.E. to Nova Coimbra in 19° 55′; then S.E. to Parana in 22° 40′: descending the river of Parana to its confluence with the Iguazu, it turns S.S.E. to the sources of the Ibicuy and Juy, and thence proceeds to the embochure of the Rio Tabym, to the N. of Santa Teresa.

By the peace of Amiens, the French obtained a large portion of Portuguese Guiana, the Arauri, in 1° 30′ N. lat., being made the limit. By a subsequent treaty, the limit of French Guiana was extended to the Carapana—a tributary of the Maranon—and Fort Macapa, by which means French Guiana was extended from the [illegible] to the equator, and along the northern shore of the Maranon; but these acquisitions of the French on the side of Guiana were restored to their former possessors by the treaty of Paris, in 1814; and the Oyapoco, as formerly, remains the boundary between French and Portuguese Guiana. Although by the treaty of St Ildephonso, in 1777, and that of Pardo, the Brazilian boundary was removed farther to the east, in respect of the mouth and lower course of the Plata river, and the colony of St Sacrament being ceded to Spain, yet by the new definition of boundary, Brazil was enlarged to the N.W. by a very great addition of territory in the S.E. of Peru, contiguous to the rich mineral district of Matto Grosso. The extent of the independent Portuguese possessions from E. to W. is various in different places; on the side of Guiana, from the mouth of the Arauari, to the upper course and most northern bend of the Rio Negro, it is upwards of 1,000 British miles; and from Cape St Roque to Sapatinga, above the mouth of the Yavari, it is 2,040 geographical miles, equal to 2,360 British miles. But towards the south its extent from E. to W. is gradually contracted within much narrower limits by the mutual approach of the sea, and its interior boundary on the side of Buenos Ayres.[1]

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[1] It is a very difficult matter clearly to designate the Brazilian boundary on the side of Guiana and Colombia, so little known is the country on that side. On a careful inspection of Faden's four sheet map of South America, abridged from the large eight sheet map of Louis Stanislaus Arcy de la Rochette, in 1818, the Portuguese boundary is delineated somewhat differently from that given above. In that map, the boundary commences at the mouth of the Oyapoco, and runs up that stream as far as 3° N. lat.,—from thence due W. to a point on the Maroni river, from which it runs N.W. alongst the southern frontier of Dutch Guiana, till it strikes the Essequibo below its confluence with the Rupuwini, where it meets the boundary of Spanish and Dutch Guiana. From this point it runs up the Essequibo to nigh its source in 3° N. lat.,—and from thence the line runs due W. to a point on the Rupuwini, S. up that stream, half-way to the source; thence S.W. to a point on the Rio Branco, or Parima, in 1° 30′ N. lat., a little to the S.E. of the point whence it issues (or is made so to do) from the lake of Parima. Down that stream in a S.W. direction, to 0° 30′ N. lat., from thence due W. till it strike the Rio Negro; up that stream as far as San Carlos, in 0° 58′ N. lat.; thence due W. to 68° 30′ W. long. of Greenwich; thence due S. to the junction of the Maranon and Yavari, in 4° S. lat. and 68° 30′ W. long., passing the rivers Orelludos, Yupura, and Putumayo in its course to the Maranon; thence up the eastern side of the Yavari, in a S.S.W. direction, to 9° 30′ S. lat.; so that, from 0° 58′ N. lat. to this point, the boundary is nearly due S. From this point, on the Yavari, the demarcation line runs straight E. to the Madeira, passing in its course the Yutay, Yurba, Tefe, Coari, and Purus rivers successively. Thence the line runs up the eastern side of the Madeira to its confluence with the Mamore river, in 11° 54′ 46″ S. lat.; thence up the Itenas or Guapore, to some distance above the fort of the prince of Beira, in a S.E. direction. Thence the line runs S.E. in a waving direction, but keeping always at some distance to the S.W. of the Guapore, till it passes the source of the Sarare, the left-hand branch of the Guapore. From thence the line runs S.S.E. till it strike the Paraguay at Nova Coimbra, in 19° 55′ S. lat.; thence alongst the western side of the Paraguay; thence S.E. to the Parana, in 23° 30′ S. lat.; thence down the Parana to its junction with the Iguazu; thence S.E. to the junction of the Uruguay and Pepiri Guazu, and thence S.S.E. to the sources of the Ibicuy and Juy rivers, and thence proceeds to the mouth of the Rio Tabym to the N. of Santa Teresa.

Divisions.] According to major Schæffer, of the Royal Brazilian Guards, who published an account of Brazil in January, 1825, at Altona, and which was reviewed in the Leipsic Literary Journal, the Brazilian empire contains 19 provinces, which, with their names, extent, and population, he has given in the following table :

Provinces.	German sq. miles.	British sq. miles.	Population.
1. Para	10,523	226,245	143,073
2. Rio Negro	9,600	206,400	48,357
3. Maranham	3,211	69,026	182,986
4. Piauhi	2,856	61,404	46,296
5. Siara	3,311	71,187	272,713
6. Rio Grande del Norte	1,572	33,798	68,756
7. Paraiba	932	20,038	246,232
8. Pernambuco	1,412	30,358	602,205
9. Alagoas	910	19,565	256,156
10. Seregippe del Rey	856	18,484	267,523
11. Bahia	2,579	55,450	559,571
12. Espirito Santo	1,788	38,442	75,996
13. Rio Janeiro	8,930	191,995	589,650
14. San Paulo	9,010	193,715	610,632
15. Cisplatina	10,565	227,147	175,960
16. Minas Geraes	11,961	257,162	928,933
17. Goyas	12,932	278,034	150,000
18. Matto Grosso	21,116	632,494	82,000
19. Isles of Fernando, Noronha, and Trinidad	50	1,075	600
	118,135	2,539,903	5,306,418[a]

Gram-Para, Rio Negro, Minas Geraes, Goyas, San Paulo, and Matto Grosso, are inland provinces, of which very little is known. Rio Negro contains the whole of Portuguese Guiana, and was included formerly under the government of Gram-Para. Cisplatina, which lay between the province of Del Rey and the N.E. bank of the Rio de la Plata, containing the long-contested settlement of St Sacrament, and the towns of Monte Video and Maldonado was seized by the Portuguese in the late war with the independent government of Buenos Ayres, but has since been reclaimed by the Buenos Ayreans, and forms no part of Brazil, and must, of course, be deducted from the number of the provinces in the table above, which leaves 2,312,756 square miles as the surface of Brazil. But Balbi, in his political table, estimates the surface of Brazil at 3,084,000 B. square miles, including Cisplatina, and the population at 5,000,000; so that his estimate exceeds that of Schæffer's by 545,000 British square miles,—a most prodigious difference! All that part of Portuguese America, between the Javare on the W. and the Madeira on the E., is called the province of Solimoens, and is, according to Southey, subordinate to the captaincy of the Rio Negro,—itself dependent, according to his account, on that of Gram-Para.

CHAP. I.—HISTORY.

Brazil was first discovered by Vicente Yanez Pinzon (who sailed with Columbus in his first voyage) in January, 1500. But the chief glory of its discovery is assigned to Pedro Alvarez de Cabral, a Portuguese navigator, who, in his expedition to India—the way to which had been but just discovered by Vasca de Gama—stood so far to the west, that he found himself on the coast of Brazil, in 10° S. lat. Coasting along this then terra incognita, to the S.W., Cabral discovered a fine harbour in 16° 30′ S. lat., where he anchored, and named it *Porto Seguro*, or 'the Safe harbour;' it is now called Cabralia. Here Cabral landed on Easter Sunday, in April, 1500, just three months after Pinzon had landed at Cape San Augustin, and taken possession of it in the name of the king of Castile. But Brazil was ordained to be subject to another sovereign, for as soon as Cabral landed, he took possession of the country in the name of the king of Portugal. The ceremony was performed with all possible solemnity. An altar was erected on the shore, beneath a large tree, and mass performed by eight friars, then going on their first mission to India, all the chaplains of the fleet assisting, and every person who could attending; a sermon was also preached on this joyful occasion; and the simple natives, nowise suspicious of the nature of this act of their new visitors, assembled at the ceremony, kneeled when they saw the Portuguese kneel, and imitated the congregation in every thing, as if they thought to gratify them by joining them in the same acts of devotion. As soon as this religious farce was performed, Cabral took a stone-cross and erected it as a memorial of his discovery, and named the country *Tierra de Santa Cruz.* Gaspar de Lemos was immediately despatched in a vessel to the port of Lisbon, with the joyful intelligence; and one of the natives with him, as a sample of king Emanuel's new subjects.

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[a] This table of Schæffer does not include the Indian or aboriginal tribes; and Schæffer thinks the whole collectively may amount to 5,700,000 souls, of which 1,500,000 are supposed to be whites. It is, however, but mere conjecture.

No sooner was this intelligence communicated, than Emanuel sent three other ships, under the celebrated Amerigo Vespucci, to examine the coast. This expedition made two successive voyages.[3] In the second voyage, the first settlement was made in 1504. But as the country was not yet found to contain the precious metals so eagerly sought after by the navigators and colonists of that day, and was supposed to produce nothing of value except parrots, wood, and monkeys, Brazil and its infant-colonies lay neglected till 1549, being only maintained by supplies of criminals from the mother-country.

At last the court of Portugal, having now become sensible of the value of these new colonies, sent out Thomas de Sousa as governor, to regulate and superintend their affairs; and, in 1549, the foundations of St Salvador, or Bahia, were laid.[4] All the grants of large tracts of land, which had been made when Brazil was thought of little consequence, were now revoked; and six Jesuits were sent out with De Sousa, for the purpose of converting the natives. The conduct of these latter was so very conciliatory, that the natives soon held them in great veneration, and oftener than once these politic ecclesiastics proved the salvation of Brazil.

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[3] "They first arrived," says Dr Southey, "in latitude 5 deg. S., and on the day after they saw a party of natives assembled on a hill. Two of the sailors volunteered to go on shore, and several days passed without their return. At length the Portuguese landed, sent a young man to meet the savages, and returned to their boats. The women came forward to meet him, apparently as negotiators. They surrounded him, handling and examining him with evident curiosity and wonder. Presently there came down another woman from the hill, having a stake in her hand, with which she got behind him, and dealt him a blow that brought him to the ground. Immediately the others seized him by the feet, and dragged him away, and the men, rushing to the shore, discharged their arrows at the boats. The boats had grounded upon a sand-bank: this unexpected attack dismayed the Portuguese; they thought rather of escape than of vengeance, till remembering at length that the best means of securing themselves was by displaying their power, they discharged four guns at the savages, who then fled to the hills. Meantime the women had dragged the body thither; they cut it in pieces, held up the mutilated limbs in mockery to the boats, broiled them over a huge fire which had been prepared as it seemed for that purpose, and with loud rejoicings devoured them in sight of the Portuguese, to whom they intimated by signs, that they had, in like manner, eaten their two countrymen. At this abominable sight, forty of the crew would have landed to revenge their comrades, but they were not permitted to make the attempt."

[4] The first settler in Bahia was Diogo Alvarez, whose history, as detailed by Mr Southey, is romantically interesting. "He was a native of Viana, young, and of noble family, who, with that spirit of enterprise which was then common among his countrymen, embarked to seek his fortune in strange countries. He was wrecked upon the shoals on the north of the bar of Bahia. Part of the crew were lost, others escaped that mode of death to suffer one more dreadful; the natives seized and ate them. Diogo

Villegagnon Expedition.] The growing prosperity of the new colony, however, exposed it to new and more formidable dangers. Their first rivals were the French. Villegagnon, a knight of Malta, with that love of adventure and restless disposition which characterized his body, wished to form a settlement upon the coast of Brazil. But as it was necessary for the success of his project that it should have the concurrence of the court, he applied to the grand admiral Coligny, who at that time possessed great influence at the court of France. In order, however, to draw Coligny more effectually into his scheme, he pretended a zealous attachment to Calvinism, and urged that the projected settlement might afford an asylum for the persecuted Huguenots. Coligny, duped by the artifice of Villegagnon, seconded his proposal with all his influence, and prevailed with Henry II. to patronize the undertaking, and several ships were fitted out, and filled with Protestant passengers. With these he set sail, and arrived at the place where now stands the city of Janeiro. Here he found some Normans, who, having been shipwrecked, had lived for some time with the savages, and were therefore qualified to act as interpreters. His vessels were then sent back to France for a further supply of Protestants; and formal despatches were transmitted to the French king, but those which he wished to be acted upon were sent to Coligny and his friends at Geneva. A great zeal was immediately kindled for the extension of the gospel into

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saw that there was no other possible chance of saving his life, than by making himself as useful as possible to these cannibals. He therefore exerted himself in recovering things from the wreck, and by such exertions succeeded in conciliating their favour. Among other things, he was fortunate enough to get on shore some barrels of powder and a musket, which he put in order at his first leisure, after his masters were returned to their village: and one day, when the opportunity was favourable, brought down a bird before them. The women and children shouted Caramuru! Caramuru! which signified a man of fire; and they cried out that he would destroy them: but he told the men, whose astonishment had less of fear mingled with it, that he would go with them to war, and kill their enemies. Caramuru was the name which from thenceforward he was known by. They marched against the Tapuyas; the fame of this dreadful engine went before them, and the Tapuyas fled. From a slave, Caramuru became a sovereign: the chiefs of the savages thought themselves happy, if he would accept their daughters to be his wives. He fixed his abode upon the spot where Villa Velha was afterwards erected, and soon saw as numerous a progeny as an old patriarch's rising round him. The best families in Bahia trace their origin to him. At length a French vessel came into this bay, and Diogo resolved to take that opportunity of once more seeing his native country. He loaded her with brazil, and embarked with his favourite wife, Paraguaza—the Great River. The other wives could not bear this abandonment, though it was only to be for a time; some of them swam after the ship, in hopes of being taken on board, and one followed it so far, that before she could reach the shore again, her strength failed, and she sunk. They were received with signal honour at the court of France. Paraguaza was baptized by the name of Catharina Alvarez, after the queen of Portugal, and the king and queen were her sponsors. Her marriage was then celebrated. Diogo would fain have proceeded to Portugal, but the French would not permit him to go there: the honours which they had shown him were not to be gratuitous, and they meant to make him of use to them in his own dominions. By means, however, of Pedro Fernandez Sardinha, (then a young man, who had just completed his studies in Paris, and afterwards the first bishop of Brazil,) he sent the information to Joam III., which he was not permitted to carry, and exhorted the king to colonise the delightful province in which his own lot had been so strangely cast. After some time, he covenanted with a wealthy merchant to take him back, and leave him the artillery and ammunition of two ships, with store of such things as were useful for traffic with the natives, in return for which he undertook to load both vessels with brazil. The bargain was fairly performed, and Diogo having returned to his territories, fortified his little capital."

these parts. Two ministers and fourteen students from Geneva determined to brave all the hardships of an unknown climate, and of a mode of life totally different from that to which Europeans were accustomed. They repaired to Coligny's seat near Chatillon, where they were treated with the highest distinction; the influence and the money of Coligny, and the uneasy situation of the reformers in France, swelled the number of emigrants, who, in three vessels, set sail to join their comrades under Villegagnon. No sooner had they arrived, than Villegagnon threw off the mask he had so long worn. He quarrelled with the Geneva ministers, and demeaned himself so tyrannically and intolerantly, that they who had gone to Antarctic France—as they ostentatiously termed it—found themselves under a worse yoke than that from which they had fled. They therefore demanded permission to return, which was granted, but on board a vessel so leaky, that five of them put ashore, rather than sail in her. After having endured the utmost misery of famine, they reached Hennebonne, where they presented some letters for Villegagnon, of whose contents they were ignorant. In these they were denounced by this worthy friend of the Guises as heretics, and therefore fitted for the stake; but providentially the magistrates of Hennebonne favoured the Huguenots, and thus the infernal malignity of this traitor was frustrated, and his treachery exposed. Others of the Huguenots fled from Villegagnon to the Portuguese, but were compelled to apostatize, and externally to profess a religion which they equally despised and hated. This proved the ruin of the project; as Coligny, after being thus basely duped, gave himself no more concern about it, and the other associates of Villegagnon were comparatively a handful. The Portuguese, however, did not attack him for the space of four years; and but for this treachery Rio Janeiro, and perhaps all Brazil, might at this day have been a French colony. A body of Flemish adventurers were just ready to embark; and 10,000 more Frenchmen would have emigrated, if Coligny's object in founding this colony had not been wickedly betrayed.

Attacked by the English and Dutch.] The Jesuits were well aware of the dangerous neighbourhood of a heretical colony, and having roused the governor to a sense of his danger, the French were attacked in their new settlement, and, after an ineffectual resistance, compelled to evacuate the place. Upon the foundation of this settlement, the present capital of the Portuguese empire in South America was founded. England being at war with Spain during the reign of Philip II., who had seized Portugal, Brazil was severely harassed by the English cruizers under Cavendish and Lancaster, who took, burned, and plundered Santos, St Vincent, and Pernambuco, then called Recife. The Dutch who had recently obtained their independence, were at war with Spain, to which power, Portugal, with all its foreign settlements, was annexed. This political misfortune had proved the ruin of the Portuguese East Indian empire, which, as lawful prey, was wrested out of their hands by the Dutch, and Brazil became the next object of their commercial and warlike ambition. In 1621, a West India company had been formed, with similar exclusive privileges to those of their East India company, which had performed such feats in the East. This body, emulous of the fame of their sister-company, fitted out successive squadrons to harass the Spanish and Portuguese settlements in South America. One of these, in 1624, under admiral Willekens, captured St Salvador, the capital of Brazil, and gained an immense booty in colonial produce. The whole province followed the fate of the city.

Struck with terror at this achievement, and fearing that it might pave the way for the loss of all Brazil, a large fleet, composed of the combined naval force of the two crowns, and carrying 12,000 soldiers and mariners, sailed from Lisbon in 1626; and, after an ineffectual resistance on the part of the Dutch garrison, recaptured the place. The Dutch, though inflamed with an eager desire of repairing this disgrace, were unable, from the deficiency of their resources, to undertake immediately the recovery of St Salvador; but attacked, with the utmost vigour, all Spanish and Portuguese vessels in the European seas as they returned from the East and West Indies, and their success in this way was prodigious, for in thirteen years they had captured 545 vessels, the value of whose proceeds amounted to £7,500,000 sterling. The equipment of their privateers had only cost half the sum, so that they were enabled to divide never less than 20, and sometimes even 50 per cent. upon their capital. By these means they were soon enabled to fit out a new armament of 46 ships, with which they attacked Pernambuco in 1630, and captured the place after several obstinate engagements. In 1633, 1634, and 1635, they reduced the captaincies of Seregippe, Del Rey, Paraiba, Rio Grande, Siara, Itamaraca, and the greatest part of Bahia,—in short, the whole of Brazil to the north of the Rio Francisco, Para and Maranhao excepted.

Elated with success, and eager to complete the conquest of all Brazil, prince Maurice of Nassau was sent out in 1636, as governor and generalissimo, with a strong armament. He laid siege to Bahia, but the obstinate valour of the Portuguese garrison baffled the genius of Maurice, who was compelled to abandon the enterprise with the loss of 2,000 men. The Portuguese, in their turn, fitted out an armament of 46 vessels, manned with 5,000 soldiers, under the command of Mascarenhas, a valiant officer, in order to recover Pernambuco. One-half of these troops perished from sickness during the passage, and the rest arrived in a melancholy state at Bahia. Mascarenhas, however, by extraordinary exertions, augmented his force to 12,000 men, and sailed for Olinda, in Pernambuco, the capital of Dutch Brazil. Maurice knowing the destination of this powerful armament, had prepared for its reception. Reinforced from Holland, he met Mascarenhas with a fleet of 41 vessels well-manned and equipped; a most furious engagement ensued, of four days' continuance; and though in the first, the Dutch admiral was killed, yet victory in the end remained with Maurice,—the Portuguese fleet was entirely dispersed,—a great part of it perished upon the rocks,—and only six ships of that mighty armament returned to Europe. This, however, did not decide the contest. The Portuguese had completely gained over the natives to their side; and a system of guerilla warfare was now commenced, which, without producing any thing decisive, prolonged the war, wasted the country, harassed the Dutch, and wearied them out with incessant predatory expeditions. Maurice found himself unable, after all his successes, to effect the entire conquest of the country; a temporary truce was entered into, which acquired strength and permanency by the revolution in Portugal.

The almost entire loss of their colonial possessions, especially that of Brazil—a loss to which they would not have been exposed, had they not, by their union with Spain, been involved in the war which that power carried on against Holland—had rekindled their ancient animosity, and the apathy which the Spanish court had shown to their misfortunes heightened it to fury; arms were, therefore, unanimously taken up; a revolution was suddenly and peaceably effected; and John duke of Braganza was called to the throne of his ancestors. This involved Portugal in a long and arduous conflict with Spain, and rendered it unable to afford effectual assistance to its colonies in Brazil. The Dutch, however, from enemies, had become the most hopeful allies in this new contest; and the present was not the time either to attack or irritate them in any quarter. A treaty of alliance, offensive and defensive, was therefore concluded between the two nations, which left the Dutch in possession of all their conquests in Brazil. The latter, conceiving their Brazilian possessions to be in a state of perfect security, thought only of reducing the enormous expense; prince Maurice was therefore recalled, as being deemed not sufficiently economical, and a jeweller of Haerlem, a merchant of Amsterdam, and a carpenter of Middleburg, were the persons nominated to succeed Maurice. On inquiring into the state of affairs, these careful men considered it as needless to keep up fortifications which, according to all appearances, would not be needed. They dismantled the fortresses, and sold the artillery, arms, and ammunition, to the Portuguese, who bought them at a high price; and thus, by receiving a large profit on these articles, and dismissing a large proportion of the troops, not only was the pay and maintenance of the useless soldiers saved, but these saving politicians thought themselves entitled to, and doubtless received, the praise and gratitude of their employers and the Dutch public, with whom economy has been always held as a saving virtue.

Expulsion of the Dutch.] The defenceless state to which the Dutch possessions were reduced by these measures, was soon perceived by the Portuguese governor of Bahia, who sent advice of it to Lisbon, and in the meanwhile a conspiracy was organised, by those Portuguese who still lived in the Dutch territory. Though the plot was discovered, yet the contrivers escaped, and having collected a number of their countrymen, began to lay waste the Dutch plantations. At the head of this insurrection was Joam Fernandez, a daring character, who was joined by Camaram, a native Brazilian, with a number of Indians, and Henrique, with a band of warlike negroes. The Dutch were totally unprepared for the greatness of their danger. One detachment after another was cut off in the woods, while with every victory the insurgents grew more numerous and better armed; and though great military talent was displayed by many of the Dutch officers, they were soon shut up in Recife, and exposed to all the miseries of a siege, with very little hope of relief. These transactions occurred in 1645, when the whole Dutch force in Brazil did not exceed 2,700 men. From this to 1654, a tedious and miserable contest ensued, so nearly resembling a guerilla warfare, that the Dutch were at length wearied out, and finally surrendered their last possession, Recife, in January, 1654. This was purely a colonial warfare, in which the principals took no active concern: the king of Portugal dissembling with the Mynheers, while these latter were too much engaged in a naval warfare with England to think much about Brazil.

Enraged at the loss of Brazil, the Dutch maintained a war of six years against Portugal, with great animosity, but without any success sufficient to compensate the loss of their late acquisitions; at last they consented to a peace, by which Brazil was left wholly in the hands of its former masters, upon condition that Portugal should pay in return 8,000,000 florins, by 16 successive instalments, in salt and colonial commodities. This treaty was signed in August, 1661. Several other stipulations in favour of Dutch commerce, especially to Brazilian ports, were made, but the

Dutch never availed themselves of them. Thus, after a contest of 30 years' continuance, the Portuguese remained sole and undisturbed possessors of Brazil.

The English, indeed, and the French, made some feeble attempts to form settlements at the mouth of the Maranon, and in Maranhao, a little after the beginning of the 17th century, but they were soon expelled. The petty disputes between the Spaniards and the Portuguese, respecting their boundaries on the side of the Plata, claim little interest, and were chiefly carried on between the colonists themselves. The colony of San Sacramento, which was always an eye-sore to the court of Madrid, was agreed to be given up by the Portuguese, in consequence of the cession of seven Jesuitic reductions on the side of the Parana and Uraguay; but as the Portuguese were compelled to use force to gain possession of them, they refused to give up San Sacramento. Another agreement was made in 1779, by which this contested fortress was yielded, in lieu of the territory of San Pedro, which had been wrested from them, and of a large tract in the S.E. of Peru.

Emigration of the Royal Family to Brazil.] Recent events have raised Brazil to a great importance. Bonaparte, as soon as he had obtained a respite from the warfare in the east by the peace of Tilsit, selected Portugal as the next victim of his ambition. After various unsuccessful attempts on the part of the prince-regent to ward off the impending danger by repeated concessions, he found that nothing but an immediate departure for the Brazils could save him from falling into the hands of the enemy. This measure was accordingly adopted as soon as he heard that a French army was approaching Lisbon, on the 29th of November, 1807. After a prosperous voyage, and escorted by a British squadron under Sir Sidney Smith, the prince-regent arrived at Bahia, on the 25th of January, 1808; there he was received with every demonstration of joy by the inhabitants, who even offered to contribute a large sum to build a suitable palace for his residence, provided he would agree to make it his capital; Rio Janeiro, however, was deemed a more suitable place for his residence, and this city, which was formerly only the capital of a colony, became that of the Portuguese monarchy. From this moment may be dated the actual independence of the Portuguese possessions in the west. "The stimulus most prompt and efficacious," says Mr Luccock, (who visited Rio both in 1808 and again in 1813,) "in promoting internal improvement, and particularly in forming a national character and feeling of which Brazil was almost destitute, and for want of which the country had nearly fallen, like the colonies of Spain, into a number of disjointed states,—arose out of the measure which gave to this important part of the Portuguese dominions, privileges and honours similar to those enjoyed by the mother country. The period for assuming this new distinction under the title of the united kingdom of Portugal, Brazil, and Algarva, was judiciously fixed for the anniversary of the queen's birthday, in December, 1815. In order fully to understand the extent and importance of this change, it will be necessary to recollect, that, in old times, the provinces were almost wholly unconnected with each other;—that they had scarcely any stronger common bond than the similarity of language, the circumstance of receiving their respective triennial governors from the same court, and the commercial one, which led their views and interests to the same European city;—that, between some of these provinces, there existed an opposition of interests, and between others, open and avowed jealousies. Hence it was, that, when the court arrived at Rio, the colonies were found to consist of portions so disjointed as to be ready, on the slightest agitation, to fall in pieces, and render the situation of the royal emigrants very precarious. There were required all the address of government, and all the powerful support which it received from Britain, to preserve the administration from positive disrespect,–to keep the whole of Brazil within one common bond,—to turn the people's attention from Lisbon to Rio,—to make them feel that the latter city had become the centre of their union, the capital of their widely diffused people, the source of their security, the focus and fountain of their wealth and their honour. The first effort towards accomplishing this important work was made when the ports of Brazil were opened to foreign commerce; and a wonderful alteration it produced in the people's views and modes of thinking. Yet it left them without any strong bias to one particular country, and served rather to incline each province, without regard to the general interest, to the side where its commercial advantage was most considerable. But no sooner was the country declared a kingdom, than it displayed an individuality of sentiment, and joined in one common act of homage to the throne."

Revolution.] In 1819, the Brazilians, assisted by an English man-of-war, recovered possession of Portuguese Guiana. In 1821, the Cortes of Lisbon invited their sovereign to revisit his ancient capital, and, on the 22d of April, his majesty nominated his eldest son Don Pedro, regent of Brazil, previous to his own departure for Europe. On the 4th of October, a premature attempt was made at Rio to proclaim the regent emperor; but on the 1st December, 1822, the Brazilians, provoked by the impolitic conduct of the cortes, proclaimed their independence, and conferred the imperial crown on Don Pedro, under the title of Pedro I. The anticipations of future unanimity which attended the elevation of Don Pedro to the Brazilian throne have not been realized. Various grievances, real or alleged, proved a source of misunderstanding bewixt the emperor and his subjects; and on the 7th of April, 1831, Don Pedro abdicated the imperial dignity in favour of his son, a child of five years of age; and a regency was nominated by the Brazilians themselves, which now governs that kingdom, and will ultimately, it is probable, resolve it into a republic.

CHAP. II.—PHYSICAL FEATURES—MOUNTAINS—GEOGNOSY—RIVERS.

VIEWED from the sea, the Brazilian coast appears rough, mountainous, and unequal; but on a nearer approach, no prospect can be more picturesque and agreeable than that which it presents—its eminences are seen covered with magnificent woods, and its valleys with eternal groves. The interior of the country is, generally speaking, one vast forest; but in the centre is the vast plain of *Campos Parexis*, extending E. and W. for several hundred miles, and covered with a soil of light earth and sand, which, by its continual shifting and undulation, resembles the agitated waves of the ocean. The soil is so loose and sandy, that the convoys of mules which have to pass this way frequently sink into it, and make their way forward with great difficulty; its only vegetation consists of a stunted species of herbage with small leaves, round and pointed like a lancet. Towards the centre, this immense sandy plain rises up into mountainous chains, which are generally considered as the highest in Brazil, and are extended over a space of more than 600 miles. It is from this elevated belt that all those rivers proceed, which finally pour their waters into the Maranon, the Rio de la Plata, and the southern Atlantic. The country on both sides of the Maranon being almost a *terra incognita* to all but the Portuguese, nothing can be said of its appearance, but merely that it consists of vast plains, extending in opposite directions, from the Brazilian mountains, and those of Guiana, to the great river of the country.

Mountains.] The principal mountains lie to the N. of Rio Janeiro, towards the sources of the Uraguay, the Parana, and the Rio Francisco. These mountains rise by successive gradations to the height of 6000 feet above the level of the sea. This chain runs parallel with the Brazilian coast for more than 1,400 British miles, in a waving form, sometimes approaching within 60 miles of the shore, and at other times receding to the distance of 250 miles from the sea. Another chain of elevated mountains, on the west, divides Brazil from the viceroyalty of Buenos Ayres, running in a northern direction from the coast across the Uraguay and the Iguazu, as far as the Parana. Another chain of lofty mountains runs N.W. and S.E. from the Parana to the Upper Paraguay; it is called the cordillera of *Amambey* and forms in part the interior boundary between Brazil and Paraguay. A third chain runs from the N.W. to the S.E., and forms a kind of connecting link between the Brazilian range and the chains that project to the E. from the Andes. This ridge in its whole extent from the source of the Tocantines, on the E., to the tributary streams of the Madeira, on the W., forms the boundary that separates the tributary streams of the Maranon from those of the Paraguay and Parana. Divers other groupes and ridges of mountains skirt the banks of the Topaysu, the Shingu, the Araguaya, and the Tocantines, for a considerable distance; while another range, which is one of the most considerable in Brazil, extends towards the northern coasts, and separates the province of Maranhao from that of Pernambuco. A chain of mountains running E. and W., at the medial distance of two degrees from the Maranon, to the N., pervades Portuguese Guiana, and receives different appellations in different parts of its course. But except the bare fact of their existence and general direction, nothing else is known.

Geognosy of Brazil.] From the account of Eschwege, it appears that this country is composed of rocks of the primitive, transition, secondary, and alluvial classes. The primitive rocks he divides into two classes; under the first, he includes granite, syenite, trap, gneiss, mica-slate, and limestone; under the second, clay-slate, quartz-rock, and quartzy mica-slate, chlorite-slate, talc-slate, potstone, and slaty quartzose micaceous iron-ore. No gold occurs in the first set of primitive rocks, and with the exception of a great deposit of magnetic iron-ore in the province of Saint Paul, no other metalliferous minerals. A bed of quartz, with gold occurs in the quartz-rock and quartzy mica-slate. This bed, which varies from an inch to six feet in thickness, is composed of quartz and schorl. Veins of quartz with gold also traverse this rock; and these, besides the gold, contain iron-pyrites, arsenical pyrites, and antimony. Some veins contain only kyanite. The slaty, quartzose, micaceous iron-ore contains gold, iron-pyrites, actynolite, and kyanite; also beds of quartz with gold; beds of magnetic iron-ore, and of iron-glance, and also beds of brown iron-ore, chlorite-slate, and talc-slate. The beautiful yellow Brazilian topazes, also beryl (?) occur in nests and small veins enveloped in lithomarge, in the chlorite and talc-slates subordinate to the clay-slate; also the rare euclase, and frequently large and beautiful crystals of iron-glance, with crystallized talc, rock-crystals with adhering topazes, topaz-crystals with included rock-crystals, and kyanite, increase the interest of these repositories. Beautiful red-lead spar or chromate of lead occurs in the potstone, and beds of iron-glance, upwards of 1000 feet thick, occur in some places. The transition rocks are clay-slate, common flinty slate, greywacke, greywacke-slate, and compact limestone. The sandstone named *Quadersandstein*, often highly impregnated with iron, seems to be a predominating secondary rock. Hematitic brown iron-ore abounds in it, and contains beautiful wavellite. The Jura limestone, which occurs in abundance, contains fossil fishes, flint, echinites, and also rocks of the salt formation. The alluvial rocks in Brazil are of two descriptions: one kind occurs principally on the ridges of mountains and upon their sides, the other in the bottoms of valleys. The alluvium of the first kind, named in the country *Tapanhoaeanga*, is composed of fragments of iron-mica and magnetic iron-stone, connected together by means of red or brown iron-ochre. It is often very rich in gold, contains beds of brown iron-ore, and large nests of *Wavellite*. The alluvial substances of the second kind occur principally in valleys, and are of two principal varieties, the one, which is compact, is a *conglomerate* of pieces of quartz cemented together by means of brown and red iron-ore, and which sometimes contains gold, and also *diamonds*; the other composed of sand, gravel, and clay, and known under the name *Cascalho*, often affords much gold, and many diamonds.

Rivers.] Brazil is watered by a profusion of great rivers. The chief of these is the mighty and majestic *Maranon*. On the side of Guiana, it is a Portuguese river for 1,200 British miles of direct distance from Cape North to the mouth of the Yupura; on the S. side, from Belem to Sapatinga, a distance of 1,600 British miles direct, it flows through the Portuguese territory. The immense tributary streams which on both sides fall into the Maranon, and intersect the vast interior in every direction, give to it all the advantages ot a maritime shore. On the south side are the *Yupura* and the *Rio Negro*, with their numberless and powerful tributary streams, the *Saraca*, the *Urexmena* or *Rio des Trombetos*, the *Curupatuba*, the *Urubucuara*, the *Ginepape* or *Mapau*, the *Paru*, the *Yaru*, the *Maracapura*, the *Carapana*, the *Arapucu*, *Iripi*, and *Araawari*. None of these, except the Yupura and the Rio Negro, have very long courses, having their sources in the mountains of Guiana, but they are all large and navigable. On the south side, the rivers watering the Portuguese territory are the *Yavari*, *Yutay*, *Yurba*, *Tefe*, *Coari*, *Purus*, *Madeira*, *Topaysu*, *Shingu*, *Hanapu*, *Tocantines*, &c. All these rivers having been described when treating of the Maranon, nothing more shall here be added, but merely that the *Araguaya*, the eastern branch of the Tocantines, separates the province of Goyas, on the E., from that of Matto-Grosso, on the W.; and that the higher courses of the Madeira, the Araguaya, and the Tocantines, are very difficult of navigation, if not impracticable, from the mountainous nature of the region which they water. The head-waters also of the *Paraguay* are within the Portuguese limits, and the tributary stream of the *Cuiaba*, a large river, almost equal in size to the Paraguay, which it joins in 17° 57′. The sources of the Paraguay approach within a few miles of these of the Tocantines, Araguaya, Shingu, and Topaysu; and in many places, owing to the configuration of the ground, the tributary rivers of the Maranon and the La Plata seem as if they were blended together, and as if their respective streams were in a manner interlocked. The upper courses of the Parana and Uraguay run for a considerable distance within the Brazilian territory.

Rio Francisco.] The chief river, which may be denominated wholly a Brazilian stream, and which is wholly unconnected either with the Maranon or the Rio de la Plata, is the *Rio Francisco.* From the indolence and ignorance of the Portuguese colonists, the source of this large stream is far from being accurately ascertained. As far, however, as is known, the source of the Rio Francisco is separated by an intervening ridge from the eastern source of the Parana, in S. lat. 20°; and being prevented by a long and lofty ridge of mountains skirting its eastern shores for 500 miles, from reaching the ocean in an eastern direction, its course is thereby determined to the N. and N.E. for 770 British miles, when it turns to the E., and after a farther course of more than 200 British miles, falls into the sea in 11° S. lat. A ridge of mountains on the W., separates the Rio Francisco from that of the Upper Tocantines. Its course is very rapid, and its breadth at the bar 8 miles. Its waters are muddy, and stain the sea to the distance of four or five leagues; and at the same distance the force of its current is felt. The tide flows up about 40 miles. It has a bad bar, which cannot be crossed by vessels of more than 50 tons. The S.W. channel is the deepest; and vessels of the above tonnage can advance about 20 leagues to the first falls, above which, barks may still proceed 80 or 90 leagues farther, to what is called the *Sumidouro*, or place where it issues from a subterranean channel, through which it flows for 10 or 12 leagues. This subterranean channel is very probably similar to that of the Red river in Louisiana, where it is concealed by a natural covering called *the raft*, for 17 or 18 leagues. Beyond this subterranean channel little is known of the Rio Francisco, though great efforts have been made to reach its source, because a false notion prevailed among the early colonists that it issued from the famous lake of Manoa El Dorado, and that the natives who dwelt about its head wore ornaments of gold. Expeditions for this purpose have been made at several times from all the captaincies. Joam Coelho de Sousa advanced farthest in the search, but his progress did not exceed 300 miles above the Sumidouro. The Rio Francisco rises from October to January, and overflows all the numerous islands in its channel. In consequence of being thus inundated, the islands produce nothing but reeds. Its shores are very fertile; from which cause, and the abundance of its fish, the Indians were continually engaged in wars for the possession of this part of the country, during the first ages after its discovery.

The other rivers of the Brazilian coast, though numerous, generally run but short courses, as the *Rio Dolce*, *Rio Grande*, and others. The *Rio Paraiba*, which gives name to a province, runs a course of nigh 700 British miles from S. to N., falling into the Atlantic in S. lat. 3°.

CHAP. III.—CLIMATE AND SOIL—PRODUCTIONS.

In such an extensive region, both the climate and soil must necessarily be very various. In the vicinity of the Amazons, or Maranon river, and in the northern parts, great tropical heats prevail; but these are considerably tempered by the excessive humidity of the atmosphere, and the copious dews which fall to refresh the thirsty soil. In the southern parts of Brazil, the climate is mild and temperate, and frequently cold, Fahrenheit's thermometer sometimes falling below 40°. This takes place, especially in ascending towards the sources of the great rivers, where the elevation of the ground modifies the temperature; and within the lofty plains which spread out into the interior, fertile valleys are found, which are both salubrious and temperate, and in which all the fruits of Europe grow to maturity, along with the native productions of America. Of this climate are the inland provinces of Minas-Geraes, Villa Rica, San Paulo, Goyas, and Matto-Grosso. The west wind, passing over vast marshy forests, is frequently found to be unhealthy in the interior parts, while the excessive heat which follows the course of the sun, fills the atmosphere with igneous particles which occasionally produce fatal effects. These unhealthy blasts, however, are corrected by the influence of the atmospheric plants which abound in the woods, and which fill the air with a fragrance that can be plainly perceived at several leagues from the shore, when the wind blows in that direction. From March to August, the rainy season prevails upon the coast. During the rest of the year, there is almost constant dry weather, the wind blowing from the north with little interruption. Under the influence of these dry and parching blasts, vegetation languishes, and all the higher and more exposed parts appear to be burnt up and withered. The sea-breeze, which ushers in the rainy season, refreshes the atmosphere, and re-animates vegetation.

The interior of Brazil, with the exception of the Campos Parexis, already mentioned, forms a vast and impenetrable forest, the trees of which are closely interwoven with brushwood, and with innumerable shrubs and creeping plants, which cling round them to their summits, and which being generally adorned with the most beautiful flowers, give a peculiar and rich appearance to the scenery. These plants, after encircling the tree to the top, frequently grow downwards, and taking root in the ground remount anew; so that the whole forest is laced together, and is rendered quite impenetrable by this thick vegetation, which has the appearance of a net so closely interwoven, that neither birds nor any other animal can penetrate it. The forests of Brazil abound in the greatest varieties of useful and ornamental wood. The principal woods lie on the Rio Grande, in the captaincy of Porto Seguro. One species, called the *sippipira*, resembles the teak of India, so well known to be superior to any European wood for firmness and durability. The *peroba*, *oraubu*, and *louro*, resemble the species of the oak and the larch. There are, besides, lighter species of wood, similar to fir, not to speak of logwood, mahogany, and an infinity of ornamental and dying woods. Many of them, such as the cedar, which is a good and durable wood, and grows to the height of 80 feet in one solid trunk, the wild cinnamon-tree, the *jaracanda* or rosewood, the best sorts of which (says Mr Mawe,) have never been imported into this country, grow more beautiful after they are worked, and are extremely durable. There are some woods which have the property of hardness in a superior degree, and others which are very heavy, and have a peculiar fragrance. Of the palm-tree, the different kinds are numerous; and we find that celebrated species, the long serrated lancet-formed leaves of which are composed of innumerable fibres, which rival silk in strength and fineness; these are used for fishing-lines, and sometimes they are converted into bridles. The Brazilian cocoa-tree is thicker and more elevated than that found in the West Indies; the tree named the *pekia* bears a fruit large and hard, something similar both in shape and size to a common ball, so that it is dangerous to be near it when the fruit falls to the ground; the Brazilian myrtle is distinguished by the shining of its bark. The *ibiripitanga*, or Brazil-wood tree, called in Pernambuco, the *pao da rainha* (queen's wood), on account of its being a government monopoly, is now rarely to be seen within many leagues of the coast, owing to the improvident manner in which it has been cut down by the government agents, without any regard being paid to the size of the tree or to its cultivation. It is not a lofty tree: at a short distance from the ground, innumerable branches spring forth and extend in every direction in a straggling, irregular, and unpleasing manner. The leaves are small and not luxuriant; the wood is very hard and heavy, takes a high polish, and sinks in water: the only valuable portion of it is the heart, as the outward coat of wood has not any peculiarity. The name of this wood is derived from *brasas* (or *brazas*), a glowing fire or coal. Its botanical name is *cæsalpinia brasiletto:* it belongs to the genus *lomentaceæ*, in Linnæus's nat. order; and is a leguminous plant, of the class *decandria monogynia.* The leaves are pinnated: the flowers are white, papilionaceous, growing in a pyramidal spike. One species has flowers variegated with red. The branches are slender and full of small prickles. There are nine species. The colour produced from this wood is greatly improved by a solution of tin in *aqua regia*, which, when mixed with the aqueous tincture, affords a beautiful precipitate of a purplish crimson, substituted sometimes for lake. It is used for dyeing silk what is called false crimson, to distinguish it from that produced by cochineal. It is indigenous to both the East and the West Indies, and is the same as Sapan wood. "Almost every one of these sovereigns of the forest," says Dr V. Spix, "is distinguished, in the total effect of the picture, from its neighbour. While the silk-cotton tree (*bombax pentandrum*), partly armed with strong thorns, begins at a considerable height from the ground to spread out its thick arms, and its digitated leaves are grouped in light and airy masses, the luxuriant lecythis and the Brazilian anda shoot out at a less height many branches profusely covered with leaves, which unite to form a verdant arcade. The jaracanda (rose-wood tree) attracts the eye by the lightness of its double-feathered leaves: the large gold-coloured flower of this tree and the ipe (*bignonia chrysantha*), dazzle by their splendour, contrasted with the dark green of the foliage. The spondias (*s. myrobalanus*) arches its pennated leaves into light oblong forms. A very peculiar and most striking effect in the picture is produced by the trumpet-tree (*cecropia peltata*) among the other lofty forms of the forest: the smooth ash-grey stems rise slightly bending to a considerable height, and spread out at the top into verticillate branches, which have at the extremities large tufts of deeply lobated white leaves. The flowering cæsalpinia; the airy laurel; the lofty geoffræa; the soap-trees with their shining leaves; the slender Barbadoes cedar; the ormosia with its pennated leaves; the tapia or garlic pear-tree, so called from the strong smell of its bark; the maina; and a thousand not yet described trees are mingled confusedly together, forming groups agreeably contrasted by the diversity of their forms and tints. Here and there, the dark crown of a Chilian fir (*araucaria imbricata*), among the lighter green, appears like a stranger amid the natives of the tropics; while the towering stems of the palms with their waving crowns are an incomparable ornament of the forests, the beauty and majesty of which no language can describe. If the eye turns from the proud forms of those ancient denizens of the forest, to the more humble and lower which clothe the ground with a rich verdure, it is delighted with the splendour and gay variety of the flowers. The purple blossoms of the rhexia; profuse clusters of the melastoma, myrtles, and the eugenia; the delicate foliage of many rubiaceæ and ardisiæ, their pretty flowers blended with the singularly formed leaves of the theophrasta; the conchocarpus; the reed-like dwarf palms; the brilliant spadix of the costus; the ragged hedges of the maranta, from which a squamous fern rises; the magnificent stiftia, thorny solana, large flowering gardenias and coutereas, enlivened with garlands of mikonia and bignonia; the far-spreading shoots of the mellifluous paullinias, dalechampias, and the bauhinea with its strangely lobated leaves; strings of the leafless milky *lianes* (bind-weed), which descend from the highest summits of the trees, or closely twine round the strongest trunks, and gradually kill them; lastly, those parasitical plants by which old trees are invested with the garment of youth, the grotesque species of the pothos and the arum, the superb flowers of the orchideæ, the bromelias which catch the rain water, the tillandsia, hanging down like *lichen pulmonarius*, and a multiplicity of strangely formed ferns: all these admirable productions combine to form a scene which alternately fills the European naturalist with delight and astonishment."

As timber forms the natural staple of a yet uncultivated country, and is therefore a source of emolument in the absence of other productions of the soil, the government no sooner saw that a large profit was to be derived from its exportation, than it assumed to itself the exclusive monopoly of that article. The consequence was, that every person who became proprietor of a forest, began with destroying all the finest of the trees, which would otherwise have been seized by the intendant, whose odious visits it was desirable to avoid. Notwithstanding this oppressive system, excellent vessels are built in Brazil for half the sum which they would cost in Europe. The privilege which Britain obtained by treaty, in 1810, of cutting timber from these noble forests, and of building ships on the spot, may eventually prove of incalculable advantage to us.

Agricultural Productions.] As no country is blest with a more genial clime than Brazil, so no country exceeds it in natural fertility. Its vast extent, its diversified surface, and its varied soil, enable it to produce all that is necessary, whether for comfort, or luxury, or use; the fruits and productions of tropical climates, as well as all kinds of European grain, flourish here. In no country would agriculture yield greater returns to the industrious cultivator, but, unhappily, in no country is it more generally neglected. A passion for seeking gold and diamonds was long fatally prevalent among the colonists, so that they lost all relish for sober labour. It is generally observed in Brazil, that those who devote themselves wholly to mining are badly clothed and worse fed than those who attend to agricultural labours: yet the husbandmen have ever been considered as an inferior class to the miners, and it is probable that this prejudice will continue to operate, until the country being in a great measure exhausted of its gold and diamonds, the colonists shall be compelled to seek, in the cultivation of the soil, a more sure and permanent source of wealth. There are, everywhere throughout Brazil, large tracts of unoccupied land, which may be obtained from government upon very easy terms, and which might be afterwards held as freehold property. Other excellent lands are held by indolent proprietors, who are either unwilling or unable to turn them to any good account; these may be purchased at very low prices, and would afford every possible encouragement to adventurous settlers. Many tracts abound with iron-ore and limestone, excellent clay for making bricks, wood in every direction and for all purposes, and water.[5]

Maize, beans, and cassava root (which is generally used as bread by all ranks), are very generally cultivated. In many parts, wheat and other European grain is reared; where the farmer has planted a sufficient supply of food for the consumption of the farm, he grows coffee, and, if possessed of the means, he prepares for growing and manufacturing sugar. The cultivation of this last article is carried on to a great extent in Brazil. In the middle of the last, or 18th century, it formed the principal riches of the country. In the course of 150 leagues along the coast, from 25 leagues beyond Pernambuco to 25 leagues beyond the bay of All Saints, Perard counted above 400 sugar mills, each of which manufactured annually about 100,000 arrobas, or 2,500,000 lbs. of sugar. While the Dutch were in possession of northern Brazil, 250,000 chests of sugar were annually remitted to Holland. Tobacco—the duties on which form a considerable portion of the revenue—is cultivated to a great extent. The labour occupies only a small part of the year; and the cultivation is so easy, that a single negro can manufacture annually about 2,000 weight. The tobacco is put up in rolls of from 200 to 300 lbs. each, and is exported to Europe and to Higher and Lower Guinea. The cultivation of cotton is pursued to a considerable extent in the northern provinces, as Para, Maranham, Pernambuco, and Bahia; and were the colonists enterprising and industrious, more cotton might be raised here than in the United States, and of superior quality, that of Georgia excepted. Ginger, superior to that of Hindostan in its natural state, though not so well prepared, is produced in great plenty. Great quantities of coffee and cacao-nuts—which latter were till lately the current money of the country—are also produced in this quarter of South America.

Other agricultural productions, as maize (of which two plentiful crops are annually raised in Para and Maranham), vanilla, and sarsaparilla, are abundant. But with all these natural advantages peculiar to the soil, the farmers of Brazil are ignorant, lazy, and miserable. The farm-houses are generally wretched hovels of one story; the floors are neither paved nor boarded; and the walls and partitions are formed of wicker work plastered with mud. The kitchen is usually a filthy room, with an uneven muddy floor interspersed with pools of water: the fire-places are formed by the rude contrivance of three round stones; and as there is no proper chimney the place is always filled with smoke, which vents itself through the door and other apertures, leaving all within black and dirty. In more remote parts of the country, the same indolent habits remain. The people (says Mawe) seemed to act as if the tenure by which they held their lands was about to be abolished; all around them had the appearance of makeshift; their old houses, fast decaying, bore no marks of repair about them: wherever a bit of garden ground was enclosed, it appeared overrun with weeds: where coffee trees still existed, the present occupiers were too indolent to gather the fruit. No artificial grasses were cultivated; no enclosures made, nor was any fodder laid up against the season of scarcity. The system of farming followed in the grassy campos, extending from the Rio Ypanema to Curitiba, is described by Von Spix in the following terms: "Every landholder possesses, according to the extent of his farm, from several hundred to two thousand, nay, even forty thousand head of cattle. They generally reckon from three to four thousand head on an estate which has two square miles of good pasture. All these roam at liberty in a wild state; but every farmer keeps, besides, as many tame draught oxen and cows as he requires for the purposes of agriculture and for milk, which is partly made into cheese. The attendance on the wild cattle gives but very little trouble: all that is required is, to brand them with the mark of the owner, and to catch the animals intended to be slaughtered. From four to six servants, under the direction of a chief cowherd, perform all these services; they prevent the herds from straying beyond the boundaries, and defend them from the attacks of the ounces, *wolves, and wild dogs. These people are almost always on horseback, as their office compels them to ride 20 miles or more in a day. Every year, the whole herd is collected at different times in a place in a high situation,* and sometimes fenced in. On this occasion, the mark of the owner is branded on the hind quarter of the beasts one year old, of which they reckon a thousand annually for a herd of five or six thousand. Those of four years old and more are selected for slaughter. The catching of these, frequently a troublesome and dangerous employment, is executed here, as in the pampas of Buenos Ayres, by means of long leathern nooses, which the farmers' servants manage with incredible dexterity. The tame cattle are kept in the vicinity of the fazenda, run free in the meadows during the day, and are only shut up in the enclosures during the night. The flesh of the tame cattle is preferred to that of the wild, because, from their undisturbed and more quiet way of life, they grow fat sooner, and with less fodder. *The pasture being so good, their milk is excellent; but a cow gives only a third part of the quantity that good milk cows give in* Europe. The hide is always the most valuable part of the cattle: it is stripped off, stretched upon the ground by means of short pegs, a little salted, and dried in the sun. The flesh, cut into thin strips, rubbed with salt, and dried in the air, is an important article of exportation from the harbours of St Paulo and Rio Grande do Sul, to the cities in the north; particularly to Rio de Janeiro, Bahia, Pernambuco, and Maranham, where, under the names of *Carne seca do Sertão*, *Passoca*, or *Carne churqueda*, it constitutes an essential part of the subsistence of all the Brazilians, but especially of the negro slaves. Besides the breeding of oxen, that of horses and mules likewise occupies several farmers in the capitania of St Paulo, but is carried on upon a far more extensive scale in Rio Grande do Sul. The horses of St Paulo are of a middling size, of slender make, and, if they are attended with care, acquire an elegant carriage, and become excellent racers. In general, 20 or 30 of those wild animals herd together, and hardly ever separate. The animals, when taken (by means of the long nooses), sometimes trembling with fear, sometimes full of impetuous fury, endeavour, by the strongest contortions and the most desperate leaps, to defend themselves against the riders. When the latter have succeeded in holding an animal fast by the ears and lips with a pair of tongs, in putting a halter over his head, and a sheep-skin by way of saddle on his back, one of the servants mounts him, and endeavours to overcome the obstinacy of the horse by means of the whip. After many violent motions and leaps, it is at length so far subdued, that it runs furiously away with its rider, and after a long course, it in some degree yields to the bridle. After being thus humbled, it stands still with its head hanging down, on which all the others separate from it. The next day the same exercise is repeated; and in a few days more, the horse is broken and fit for riding. The common paulistas, and particularly the *piaos* (the herdsman's servants) make use of a very small flat wooden saddle, which is often not even covered with leather. Their stirrups are so small that they will only admit the great toe: the spurs are fastened to the naked heel. The dress of the *piao* consists of a short jacket, narrow trowsers, and a flat round hat fastened with a strap, altogether of brown leather, made of deer or capivara hides, and is very well adapted to protect him against the thorny hedges through which he must force his way when pursuing wild animals. The wild horses are most frequently of a brown colour, very rarely white or piebald, and by their disproportionably short, thick heads and small stature, generally betray their extra-European breed. *The mules are here more handsomely made animals than the horses: they are commonly equal in size to a European horse; their* colours are black, brown, fallow, or striped like a zebra. They are preferable to the horses, especially on long journeys, because they can better endure hunger and thirst, and carry with greater security heavier burdens."

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[5] As an instance of the profits which may be gained by farming in Brazil, an industrious priest is adduced by Mr Mawe, who having obtained possession of a farm which he diligently cultivated, had, in the course of four years, rendered it worth L.400 sterling,—although he only possessed L.8 sterling annually, as his clerical salary, with which to hire negroes for the cultivation of his property.

Animal Productions.] In the different regions of land, water, and air, Brazil teems with animality. The woods are full of rapacious quadrupeds, venomous reptiles, and mischievous insects, which are so similar to those of the other tropical regions of South America, already described, that further description is unnecessary. It must be remarked, however, that such animals as the glama, vicuna, chilihueque, paco, and guanaco, natives of Peru, Chili, and part of Buenos Ayres, do not exist in Brazil. Monkeys are so numerous, and their species so various, that Brazil seems as if it had been destined for the abode of these imitative animals. A species of bearded monkey, with a countenance remarkably resembling the human, inhabits the woody isles of the marsh of Xarayes. They are killed for the sake of their black and glossy fur: the leaner the monkey, the greater is his value, for the fur is then closer, and the skin more easily and effectually cured. The females and young are of a light colour. They are social animals. A troop of them is called *a choir* by the Portuguese, from the circumstance of their singing in concert at sunrise and sunset. Being otherwise defenceless, they are provided with vocal organs, which enable them to terrify even man, when unaccustomed to the sound, which is so powerful as to be heard for miles around. This cry, which proceeds from fear, is a deep bray in octaves; and during the alarm which this unexpected and monotonous sound occasions, these animals generally make their escape. The jaguar, or American tiger, is not so common as in Paraguay. Serpents are extremely numerous in Brazil: no less than 29 kinds have been enumerated by authors in the various accounts of this country. Some of these species equal in size the *buio* of Guiana. Of tame and graminivorous animals, black cattle are the most numerous; and these have multiplied to such an extent, that they are for the most part slaughtered for the sake of their hides, many thousands of which are annually exported. The immense number of carcases which are thus left to be devoured by birds and wild beasts would afford room for an extensive trade in provisions, were not the salt trade prohibited by the monopolizing spirit of the government. Among the birds, the *ouira* is common in Maranham; it is said to be double the size of the eagle; in strength and size he is said to exceed the condor; his plumage is variegated like the guinea fowl.

Another large bird, called the *salian*, is in size equal to a turkey, with the beak and legs of a stork. Like the ostrich he cannot use his wings, yet runs so swiftly that he cannot be taken but by snares. Other birds resemble pheasants and partridges, and there is a species of pigeon of remarkable beauty. The *colibri*, or humming-bird, is known in Brazil by the poetical epithet of *Beija fior*, or 'kiss the flower.' The *aral*, variegated with blue and scarlet, and the *candidi*, with blue and gold, are birds of surprising splendour; but it would be endless to enumerate the brilliant birds of this country.

Of all the numerous swarms of insects that infest Brazil, the ant is the most formidable and destructive. So dreadful are its ravages, that it is called 'the king of Brazil.' The province of Itamaraca is peculiarly subject to its depredations; in some parts it is rendered quite barren, from the continual devastations of these insects. The large red ant, which is from a quarter of an inch to an inch in length, and inflicts a most painful bite, lives upon vegetables, and is so peculiarly destructive to the manioc, as to have obtained the appellation of the manioc-ant. A very diminutive black ant, the smallest of the species, is so determined and dreadful an enemy to the large red ant, that it is engaged by the Brazilians as an ally in their defence. It builds in trees; and colonies of them are encouraged by the planters to settle upon the orange and other fruit-trees, which they defend most effectually against the red enemy. Mr Koster has seen the entrance to the nests of the red ants surrounded by the dead of both parties, and always observed that the slain of the red outnumbered those of the black ants, though the former in the action outnumbered the latter. The small black ant is a carnivorous insect. The *amphisbæna*, or two-headed snake, a most poisonous reptile, about 18 inches long, and of the thickness of a child's little finger, is often found in ants' nests. The banks of the Maranon are infested with myriads of insects, which by day and night harass the unfortunate voyager. Of these, the *pium* is most terrible; it is an exceedingly small insect, but its venomous bite making a wound the size of a pin's head, is accompanied with intense pain. The hands and face will be covered in a day's space with such wounds; and many die in consequence of the inflammation produced by them. The *acarus*, or *carabatos*, is a formidable plague of this country. The *mutuca*, a large fly, also inflicts a troublesome wound, but only torments by day. When the pium and the mutuca have retired, they are succeeded by the *mariuimum*, an insect almost imperceptibly small, but whose bite is sharp and painful. The *carapana* and the *murococa* are abroad night and day, and bite through the folds of any clothing but strong silk, and are the most annoying, because they give no respite. The rivers and sea-coast of Brazil are well-stocked with fish. Whales are very numerous in the adjacent seas

Von Spix thus describes the appearance of animal life in a Brazilian *campo*, or mountain-plain: "On these serene and tranquil heights, the noisy inhabitants of the wood are mute: we no longer hear the howling of herds of monkeys, the incessant screams of innumerable parrots, orioles, and toucans, the far-sounding hammering of the wood-peckers, the metallic notes of the uraponga, the full tones of manakins, the cry of the hoccoes, jacues, &c. The more numerous are the humming-birds, buzzing like bees round the flowering shrubs; gay butterflies fluttering over the rippling streams; numerous wasps flying in and out of their long nests hanging suspended to the trees; and large hornets (*morimbondos*) hovering over the ground, which is undermined to a great extent with their cells. The red-capped and hooded fly-catcher, the *barbudos* (the barbet), little sparrow-hawks, the rusty-red or spotted *caboré* (Brazilian owl), bask on the shrubs during the heat of noon, and watch, concealed among the branches, for the small birds and insects which fly by; the tinamus walks slowly among the pine-apple plants, *enapupes* and *nambus* in the grass; single toucans, seeking berries, hop among the branches; the purple tanagers follow each other in amorous pursuit from tree to tree; the *carăcara* (falco brasiliensis), flying about the roads quite tame, to settle upon the backs of the mules or oxen; small wood-peckers silently creep up the trees, and look in the bark for insects; the rusty thrush, called *Joao de Barros*, fearlessly fixes its oven-shaped nest quite low between the branches; the siskin-like creeper slips imperceptibly from its nest, (which, like that of the pigeons, is built of twigs, and hangs down from the branches to the length of several feet,) to add a new division to it for this year; the *caoha*, sitting still on the tops of the trees, looks down after the serpents basking on the roads, which, even though poisonous, constitute its food; and sometimes, when it sees people approaching, it sets up a cry of distress, resembling a human voice. It is very rarely that the tranquillity of the place is interrupted, when garrulous orioles and little parrots and parroquets, coming in flocks from the maize and cotton plantations in the neighbouring wood, alight upon the single trees on the campos, and with terrible cries appear still to contend for the booty; or bands of restless hooded cuckoos, crowded together upon the branches, defend, with a noisy croaking, their common nest, which is full of green-speckled eggs. Alarmed by this noise, or by passing travellers, numerous families of little pigeons (*rolas*), often no bigger than a sparrow, fly from bush to bush; the larger pigeons (*amarzoga* and *troquase*), seeking singly among the bushes for food, hasten alarmed to the summits of the neighbouring wood, where their brilliant plumage shines in the sun; numerous flocks of little monkeys run whistling and hissing to the recesses of the forest; the cavies, running about on the tops of the mountains, hastily secrete themselves under loose stones; the American ostriches (*Emus*), which herd in families, gallop at the slightest noise, like horses through the bushes, and over hills and valleys, accompanied by their young; the dicholopus (*siriemas*) which pursues serpents, flies, sometimes sinking into the grass, sometimes rising into the trees, or rapidly climbing the summits of the hills, where it sends forth its loud, deceitful cry, resembling that of the bustard; the terrified armadillo (*tatu*) runs fearfully about to look for a hiding-place, or when the danger presses, sinks into its armour; the ant-eater (*tamandua*) runs heavily through the plain, and in case of need, lying on its back, threatens its pursuers with its sharp claws. Far from all noise, the slender deer, the black tapir, or the pecari, feed on the skirts of the forest. Elevated above all this, the red-headed vulture (*urubu*) soars in the higher regions; the dangerous rattle-snake (*cascaoel*), hidden in the grasses, excites terror by its rattle; the gigantic snake sports suspended from the tree with its head upon the ground; and the crocodile, resembling the trunk of a tree, basks in the sun on the banks of the pools. After all this has passed during the day before the eyes of the traveller, the approach of night, with the chirping of the grasshoppers, the monotonous cry of the goat-sucker (*Joao corta pao*), the barking of the prowling wolf and of the shy fox, or the roaring of the ounces, completes the singular picture of the animal kingdom in these peaceful plains."

CHAP. IV.—MINES AND MINERALS.

Brazil is rich in mineral treasures. As the rage for gold and silver was the grand stimulus of transatlantic voyages and American expeditions, the Portuguese were not long in forwarding parties of discovery to explore the interior, in search of that wealth the possession of which was regarded as the acmé of human felicity. The Dutch also, while in possession of North Brazil, endeavoured to explore the mines, but without success. Anthony Soary, a Paulist, was the first who discovered the mines; and, in 1695, they began to be wrought with amazing success, as the metal was abundant, and easily extracted. No sooner, however, was the court of Lisbon apprised that a source of new and vast wealth was opened up to view by the enterprising activity of private adventurers, than it ordained, that on the discovery of a mine, immediate notice should be given to government, and that a fifth part of the produce should always be paid into the treasury. Other mines were soon discovered, and the produce was so copious, that the royal fifth annually amounted to £180,000 sterling, and consequently the total produce to £2,400,000 sterling. At this rate, it continued from 1728 to 1734. It then began gradually to diminish, till the whole produce sunk to £1,300,000 sterling, and consequently the royal fifth to £260,000 sterling. So watchfully was the mineral produce of Brazil formerly guarded by the Portuguese government, that no foreigner was ever permitted to penetrate into the interior, so that no satisfactory information could be obtained respecting these valuable productions. But after the emigration of the royal family to Brazil, the watchful policy of the Portuguese government greatly relaxed, and Mr Mawe was freely permitted to visit both the gold and diamond districts of the interior, and to examine every part of the works connected with them; he has accordingly given the public many curious details respecting this branch of domestic industry, which draws the inhabitants from every other pursuit.

Gold-mines.] In deep valleys, and in the beds of almost all the rivers which have their rise in the interior of Brazil, gold is found in abundance; and the nearer the source of the river, the soil always proves to be the richer in mineral wealth. All the head-waters of all those streams which rise in the provinces of Minas Geraes or of Goyas, and which running S.W. fall into the Parana (a branch of the great Plata), or turning to the N.E. are carried by the St Francisco river to the Atlantic, are rich both in gold and diamonds. Almost all the towns in the interior of Brazil were established by adventurers for gold, and they are found accordingly to be situated near the sources of the great rivers. The mines of *Cuyaba* are established on the river of that name, and near the town of Cuyaba, which is large, and, with its dependencies, estimated to contain 30,000 inhabitants. They were discovered in 1718, and were long celebrated for the quantity of gold which they produced, which has been calculated at 500 lbs. annually, or £33,750 sterling, and of an extremely fine quality. The town of Cuyaba is in 15° 33′ S. lat., and 56° 2′ W. long., 388 miles above the entrance of the Cuyaba into the Paraguay, and 840 miles from the nearest sea-coast. A piece of native gold was found in the province of Goyas, weighing 43 lbs. avoirdupois, and sent to Lisbon, where Southey saw it in 1796. But the produce of gold is not confined to the provinces of Minas Geraes and Goyas: it is also found in the province of Matto Grosso. The first gold mine in that province was discovered, in 1734, on the banks of the Sarare, a branch of the Guapore, which it joins 12 miles above Villa Bella, the capital of Matto Grosso. The fifths of the gold mines in Minas Geraes averaged, for 15 years, 100 arrobas, or 2,800 lbs., which, at £4 per ounce, amounted to £156,800 annually. In 1753, the fleet from the Rio, the richest till then that had ever arrived at Lisbon, was believed, at a moderate computation, to have brought home £3,000,000 sterling in gold. The fifth that year from Minas Geraes amounted to £400,000 sterling. The bullion and jewels which were sent the following year (1754) were estimated at one million of moidores. For about 16 years, the fifths averaged 109 arrobas, or £182,000 sterling; but in the ensuing 11 years they fell to 86 arrobas, or £145,216 sterling.

The gold of Brazil is contained generally in a loose marl-like stratum of rounded quartzose pebbles, and adventitious matter, called *cascalhao*, which rests upon granite, and is covered by earthy matter of variable thickness. The gold is sometimes found covered by the soil at the depth of 20 feet, while at other times, on many of the hills, where water can be procured for washing, particles of gold appear in the soil at little greater depth than the roots of the grass. At Villa Rica, the bed of cascalhao was on the margin of the river; and Mr Mawe found the workmen employed in cutting away the bank to the depth of at least 10 feet, before they could reach the vein containing the gold, which was incumbent on the rock. The substance they had to pierce was a clay so strong that though falls of water were precipitated upon it, and negroes were constantly working it with hoes of various kinds, it was with difficulty removed. This was not the only impediment, for by the continual washing down of mud from the higher grounds, the cascalhao was 5 feet lower than the bed of the river; so that when the pits were sunk to its depth, they were soon filled with water, which had to be drawn off by machinery. When the stratum which contains the gold is found at a distance from the rivers, it is dug up and carried to a convenient place, where it is washed for the purpose of separating the earth and other materials from the gold. The process is simple, and is well described by Mr Mawe, who was freely allowed to visit the different *lavaderos* established in the country. In all the various operations, however, necessary for separating the gold from its concomitant materials, a great deal of time and labour is wasted which might be saved by adopting some very simple contrivances. In removing the earth to the place where it is to be washed, neither carts nor wheelbarrows are used; the whole is transported in bowls carried on the heads of poor negroes, who have frequently, with these heavy burdens, to climb up steep ascents. The hydraulical apparatus used for drawing off the water is cumbersome and expensive, as in many cases even ordinary pumps would answer the purpose much better. The method of washing the cascalhao in bowls is extremely tedious, and might be easily shortened. In breaking down the ferruginous cementation and softer substances which contain gold, mills might be constructed, by which all the metal contained in the ore could be completely and speedily extracted, and at far less expense and labour. Such mills, called *arastras*, are used in the Mexican silver-mines, where the object of separating the metal is effected with admirable skill, and to vast advantage, according to Humboldt. The particles of gold being separated by washing from the stratum in which they are found, are brought to the nearest mint, where a fifth part is taken for the crown; the remainder undergoes a process of amalgamation with mercury, and is afterwards poured into an ingot, which being sent to an assay-master, he ascertains its weight and measure, and stamps it, when it is delivered to the owner for circulation. The operation of smelting does not occupy more than ten minutes; and those who deliver into the mint any quantity of gold-dust, may reckon upon having it returned to them for circulation in less than an hour. The gold is of different qualities. Some of the bars in circulation are so low as 16 carats, while others are so fine as 23½ carats, or within half a carat of pure unalloyed gold. The standard of fine gold is 22 carats. Beyond this standard, gold receives a premium proportioned to its fineness. Gold of a low standard is generally of a pale colour, owing, it is supposed, to the mixture which it contains of silver, platina, or of some other coarser metals.

As to the quantity of gold extracted from the mines and lavaderos of Brazil, since their first discovery, it is impossible accurately to determine. For the first 60 years, namely, from 1695 to 1755, the quantity brought to Europe, according to the registers of the fleets, amounted to 480,000,000 dollars, or £108,000,000 sterling, being double the produce of gold extracted since: and estimating (with Humboldt) the annual produce from 1756 to 1803, at 32,000 marks, the total sum for this latter period will amount to 204,544,000 dollars, or £46,022,400 sterling, or a general total of 684,544,000 dollars, or £154,022,400 sterling. To this sum must be added the unregistered produce, which, in spite of every precaution adopted by the Portuguese government, is enormous, amounting to no less than 171,000,000 dollars, or £38,500,000 sterling, making a total of registered and contraband produce of Brazilian gold, from 1695 to 1803, amounting to 855,000,000 dollars, or £192,625,000 sterling. As to the present annual produce of the Brazilian mines, it is estimated by Humboldt at 29,000 marks, or 4,360,000 dollars, or £981,000 sterling; but by others it is estimated at only 20,000 marks, or £670,000 sterling. It is certain, that, for many years towards the end of the last century, upwards of £900,000 sterling of Brazilian gold annually found its way to Great Britain, and that the supply began to fall off in 1792, and almost wholly ceased after the removal of the royal family to Rio Janeiro, in 1807. The causes of this diminution are various; but the chief seems to be, that the gambling spirit of mining speculation is considerably abated, —that several at least, if not most of the rich mines, have been exhausted, —and, that in the natural progress of a rising people, the Brazilians have begun to discover how much more advantageous it is to engage in the surer profits of agriculture and commerce, where the profits are their own, than in hazardous adventures, from the produce of which a fifth must be paid to the crown. The produce of the Brazilian mines, from 1811 to 1825, averaged annually 1,095 lbs. of gold, and 4-5ths more as contraband, or 876 lbs. of gold; total 1,971 lbs.; and total value £127,144 sterling. In 1824, the produce of gold was only 584 lbs., or £34,376 sterling. The Gongo Soco mines, wrought by the Imperial Brazilian Mining Association, produced, in 1826, 550 lbs. of gold; in 1827, 2,008 lbs.; in 1828, 1,062 lbs.; in 1829, 4,044 lbs., or in value, £258,876 sterling; and from the 9th of January, 1830, to the 17th of February, 1830, 470 lbs. of gold. Before dismissing this part of the subject, we shall subjoin, for the satisfaction of the readers, a table, showing at one view the quantity of the precious metals extracted from the mines of Spanish America and Brazil.

SPANISH AMERICA.	Dollars.	Pounds Sterling.
Produce of the Mexican mines, to 1806,	2,107,270,511	£474,135,866

	Dollars.	Pounds Sterling.
Produce of the mines of New Granada, to 1803, -	275,000,000	61,875,000
Produce of the mines of Chili, to 1803, - - -	138,000,000	31,050,000
Produce of the Peruvian mines, to 1806, - -	891,358,595	200,555,684
Produce of the mines of Potosi, to 1803, - -	1,476,372,174	332,183,739 7s. 6d.
Total produce, registered and unregistered, of Spanish America, - -	4,888,001,280	L.1,099,800,289 7s. 6d.
PORTUGUESE AMERICA.		
Produce of the Brazilian mines from 1695 to 1803, registered and unregistered, -	855,000,000	L.192,375,600
Total produce of the American mines to 1803 and 1806, -	5,713,001,280	L.1,292,175,289 7s. 6d.

So much has the mineral produce of the Mexican mines diminished, consequent on the long continued and destructive intestine warfare which so long afflicted that unfortunate country, that it does not now exceed 10,000,000 dollars, instead of £27,000,000 as in 1805. From 1811 to 1826, the collective produce was only 168,297,400 dollars. The coinage of the Mexican mint, for 1827 and 1828, amounted to 5,700,853, and that of the four provincial mints, for these same years, 6,001,747 dollars. Total produce in 18 years, from 1811 to 1828, 179,999,990 dollars, or 10,000,000 annually. The Chilian mines, which produced annually 2,060,000 dollars registered and contraband prior to the revolution, and which even in 1817 produced a coinage of 1,161,283 dollars at the mint of St Jago, fell, in 1824, to 193,000 dollars, or only one-sixth of the coinage of 1817. The mines of New Granada, which produced, at an average 3,000,000 dollars annually, fell to 1,270,000 dollars in 1822. So that the whole mineral produce of the American mines, whether Spanish or Portuguese, is not now one-fourth of what it was at the commencement of the present century, and before the late revolutions in Spanish America.

Diamond-mines.] Brazil is not only celebrated for its gold, but also for its diamonds, productions hitherto supposed to be peculiar to the oriental regions of the Old World. The district in which they are found lies in the *Cerro do Frio*, or 'the Cold mountains,'—a rugged range running N. and S., generally reputed to be the highest in Brazil, and which separates the sources of the waters that form the aggregate streams of the Rio Dolce and Rio Grande, from those that run into the Rio Francisco. At the foot of this chain the diamond-works of Brazil are established. This tract of mountainous country, extending 50 miles in length from N. to S., and 25 in breadth from E. to W., is called 'the Diamond demarcation,' as being exclusively the property of the crown. The diamonds were first discovered in this district, about 1730, by an enterprising colony of miners from Villa de Principé, 60 miles to the S.E. of Tejuco. Here, while employed in searching for gold, they met frequently with little shining stones, which at first they threw away as useless, with the sand and gravel. One of the overseers beginning to suspect that these might be of some value, transmitted a specimen to the governor, who forwarded them to Lisbon, and after repeated examination, they were pronounced to be genuine and valuable diamonds. As soon as this intelligence reached Brazil, all the stones which had been carelessly thrown away were immediately collected and sent over to Europe, in such quantities as greatly to lower their value. The court of Lisbon, exceedingly dissatisfied with this conduct, took immediate steps to monopolize to itself the whole of this valuable produce. Cerro del Frio was accordingly erected into a distinct district, called the diamond-ground,—peculiar laws and regulations were framed for its administration,—all trade in diamonds was rigorously prohibited,—and no severity was left untried to enforce this monopoly. In spite, however, of every exertion on the part of the government—as generally happens where government regulations interfere with the private interests of its subjects—these severe laws were evaded. By intrigues and misrepresentations, government was induced to let this district to a company, on the condition that they should only employ a limited number of negroes, and pay a certain sum for every negro employed beyond the quantity agreed to. Under cover of this agreement, every species of fraud was practised; double the stipulated number of negroes was employed; and this imposition was connived at by the agents of government, who shared in the gains derived from this illicit traffic. In 1772, the contract on which the works were held being ended, government took the management of the works into its own hands, but, like all public concerns here, they were deplorably mismanaged; and the establishment run in debt to foreigners, who advanced a considerable sum of money, on condition of having all the produce of the mines secured to them. From 1801 to 1806, the expenses of the establishment cost £204,000 sterling; and during the same period, the diamonds sent to the treasury at Rio Janeiro weighed 115,675 carats. The gold found was estimated at £17,300 sterling value; from which it appears that the diamonds cost government 33*s*. 9*d*. per carat.

The diamond-works are in the vicinity of Tejuco, a town containing 6000 inhabitants, who are chiefly indebted to them for support. The principal establishment is situated on the river Jijitonhonha, a tributary of the Rio Grande. There are others situated on the river Velho, a branch of the Francisco, and on the Rio Pardo, as well as several other small streams belonging to this elevated tract. The Rio Pardo, though small and insignificant in its appearance, has produced as large a quantity of the most precious gems as any river in the district. The Jijitonhonha, which is formed by the junction of several streams, is about as broad as the Thames at Windsor, and is generally from three to nine feet deep. At the time Mr Mawe visited these works, they were working at a curve of the river, from which the stream was diverted by a canal cut across the tongue of land round which it winded, the former course of the river being stopped just below the head of the canal, by an embankment across its channel formed of several thousand bags of sand. The river being both wide and deep, and occasionally subject to overflow, the embankment must be made so strong as to resist the pressure of the water, admitting it to rise to the height of four or five feet. After this operation, the water is drained away from all the deeper parts of the channel, by means of large caissons, or chain-pumps, which are worked by a water wheel. The channel being in this manner laid dry, the mud is carried away, and the cascalhao is dug up and removed to a convenient place for washing, which is done by negroes, in a range of troughs, through which a stream of water is made to flow as occasion requires. At equal distances, are placed three high chairs for the overseers. After they are seated, the negroes enter the troughs, each provided with a rake of a peculiar form and short handle, with which he rakes into the trough about 50 or 80 lbs. of cascalhao.

The water being then let in upon it, the cascalhao is spread abroad, and continually raked up to the head of the trough, so as to be kept in constant motion. This operation is performed for about a quarter of an hour; the water then begins to run clearer, having washed the earthy particles away; the gravel-like matter is raked up to the head of the trough; after the current flows away quite clear, the largest stones are thrown out, and afterwards those of inferior size, then the whole is examined with great care for diamonds. When a negro finds one, he immediately stands upright and claps his hands, then extends them, holding the gem between his fore finger and his thumb, whereupon an overseer receives it from him, and deposits in a bowl suspended from the centre of the structure half full of water. In this vessel all the diamonds found in the course of the day are placed; and at the close of work are taken out and weighed by the principal officer, and are then registered in a book kept for that purpose. When a negro is so fortunate as to find a diamond of 17½ carats weight, much ceremony takes place: he is crowned with a wreath of flowers, and carried in procession to the administrator, who gives him his freedom by paying his owner for it. He also receives a present of new clothes, and is permitted to work on his own account. When a stone of 8 or 10 carats is found, the negro receives a couple of new shirts, a complete new suit, with a hat, and a handsome knife. For small stones of trivial amount, proportionate premiums are given. "During my stay at Tejuco," says Mawe, "a stone of 16½ carats was found: it was pleasing to see the anxious desire manifested by the officers, that it might prove heavy enough to entitle the poor negro to his freedom; and when, on being delivered and weighed, it proved only a carat short of the requisite weight, all seemed to sympathize in his disappointment." It is calculated that only two or three stones of from 17 to 20 carats are found in the course of a year; and not once in two years is there found throughout all the diamond-washings a stone weighing 30 carats. During the five days in which Mr Mawe was employed in visiting the works, the number of diamonds found did not exceed 40.

Various precautions are used to prevent the negroes from embezzling diamonds. Although working in a bent posture, and therefore unable to observe whether they are watched by the overseers, they may nevertheless omit gathering some of the diamonds which they may see; and placing them in a corner of the trough, they may afterwards contrive to secrete them. To prevent practices of this kind, they are frequently changed while the operations are going on; and at the command of the overseers they must instantly move into each other's troughs, so as to prevent the possibility of a collusion. If suspected of swallowing a diamond, the negro is confined within the bare walls of a strong room, where strong purgatives are administered to him, in order to ascertain the fact. If he proves guilty, he is liable to personal chastisement, or to imprisonment, a much lighter punishment than would be inflicted on any white man for the same offence. The officers of the establishment are liberally paid, and live in a style of elegance which no one would expect to find in so remote and unfrequented a place.

All the gold collected in Brazil being liable to pay a fifth to the crown, and the trade in diamonds being wholly a royal monopoly, an extensive contraband trade, both in gold and in diamonds, has been the necessary consequence. The temptation to smuggle diamonds is still greater than that presented by gold, because in the one case the illicit dealer gains only the royal fifth by evading the regulations of the state; while, in the case of diamonds, he gains the whole value of the article which he succeeds in conveying clandestinely away. The irresistible temptation which the monopoly holds out to illicit commerce, is met by regulations of corresponding strictness and severity. For the security of the revenue, the country has been subjected to a most vexatious system of military police; and the unhappy offender, who is detected in the heinous crime of illicit trade, is doomed to experience the utmost vengeance of its rulers by a hopeless captivity, or by being transported to the African colonies. Nor is it at all considered that an improving commerce, cherished and protected by an enlightened government, would soon pour into the Brazilian treasury, as the cheerful gift of a free and flourishing people, a far ampler revenue than can ever be extorted by all the miserable devices of a tyrannical government.

The whole sum produced to government by the diamond monopoly (exclusive of expenses) is £148,150 sterling, on an average. The diamonds are purchased by British and Dutch lapidaries, who cut and bring them into a state proper for sale. The diamonds of Brazil are not of so fine a water, nor so transparent as the diamonds of Golconda, being often of a brownish obscure hue. Red amianthus is another mineral product of Brazil, but is extremely rare. Little black garnets are often found in the diamond district, where they frequently appear six feet above the diamonds.

Silver is not found in Brazil. All the dollars in circulation come from the Spanish mines. Iron and nitre are both abundant. Several great unwrought mines of the latter, are in the vicinity of Bahia. A royal foundery has been erected on the banks of the Ypanema. "Beautiful plains," says Dr Von Spix, "form the foreground, and the iron mountain of Guarassojava covered with a dark wood, which on the N.W. side, descends into the valley, makes the background of the landscape. The neatly whitewashed houses, which lie scattered along the hill, at the foot of which stand the extensive buildings of the manufactory, and the expression of noisy activity and industry which reign here, seem to transport the European into some manufactory in a beautiful wild district of his own country. The mountain which produces this extraordinary quantity of ore rises behind the place, a quarter of a mile to the W., and extends, as a rather insulated mountain ridge, a league in length from S. to N. The elevation above the Ypanema is about 1000 feet. It is almost everywhere covered with thick woods, from which, in the morning and evening, are heard the noisy howls of the brown monkeys. We ascended it, taking the narrow road through the bushes, by which the mules bring the ore to the manufactory. After we had gone winding up the mountain for a short way through thick wood, we found ourselves all at once before some gigantic rocks of magnetic iron-stone, which rise almost perpendicularly to the height of 40 feet and more. Around them, partly upon, and partly under the surface of the ground, which is a very rich mould, lie innumerable loose pieces, from the size of a fist to considerable blocks. The surface of the masses of rock is almost everywhere flat and even, with slight depressions and cavities, and has a crust of imperfectly oxydated iron-stone, which is some lines thick. We did not observe that the great masses caused any motion in a suspended needle; but small pieces, especially when just struck off, had a considerable effect on it. The mass of this magnetic iron-stone is either quite compact or traversed by veins of red ochre. This iron-stone appears to be in immediate contact with a yellow quartzy sand-stone, with an argillaceous cement: at least, the latter is seen in several places at the foot of the mountain, as well as in Ypanema itself. A dirty lavender-blue primitive clay-slate, tinged brown in the rifts, which runs from E. to W., lies on the top of the mountain, here and there, over the iron. Upon *Morro de Guarassojava*, and probably in veins of the magnetic iron-stone, there is a porous quartz-stone of a light-brown colour, the cavities in which are covered with a bluish-white chalcedony, with a crystalized surface."

That valuable mineral, salt, is so abundant in Brazil, that in Bajo, near Cape Frio, whole ships might be loaded with it. In the district of Minas Geraes, (says Da Cunha,) salt becomes so indispensable a requisite, that not only men, but cattle, and other animals, require it for their food. In every place where a high mountain extends from the sea to the mines, salt must be given to the cattle, else they would often refuse their usual fodder. It is also remarkable, that in the interior parts of these countries, where nature has impregnated the soil with salt, quadrupeds and birds flock together to eat this earth. A combination of so many animals of various species and colours, on one single spot, and the different tones which they utter, exhibits a most diverting spectacle to the curious observer. Yet even this article, so indispensably requisite for the support of animated existence, and laid in such abundance in various parts of Brazil, as it were, at the very doors of the colonists, has not escaped the rapacious gripe of the government. It is, in consequence, uncommonly dear. The quantity necessary to salt an ox, is dearer in many parts, than the ox itself. So injurious is this monopoly of salt to agriculture, that in many farms, though the cows require salt constantly as part of their food, it is only given them once in 15 or 20 days, in small proportions. Salt being thus a royal monopoly, is farmed out to one individual, who pays for it the annual sum of 48,000,000 reis, £16,000 sterling into the royal coffers. This farm draws double the sum, or £32,000 sterling annually from Brazil, one-half of which remains to the farmer and his agents and receivers, (after paying the other half to government) even after deducting all the principal expenses of the salt itself, including freight and carriage. But much more considerable are the profits he draws from the inner parts of the country, where the herds are most numerous and the demand for salt consequently greater, the price of the article being enhanced in proportion to the expense of carriage over the many mountains which are there to be met with. The whole commerce of Portugal, indeed, is made to forfeit, by this abuse, infinite emoluments and advantages which it would otherwise gain from a greater abundance of salt fish, butcher meat, bacon, cheese, and butter, that would be produced and brought to market. Thus the royal treasury, for the sake of the comparatively small sum of £16,000 sterling *annually*, robs itself of much larger sums, which the duties on these products would fetch, but for the factitious dearness of salt.

CHAP. V.—INHABITANTS AND POPULATION—MANNERS AND CUSTOMS.

When Brazil was first discovered by the Portuguese, its coasts were peopled by an infinity of tribes; no less than 150 barbarous languages were spoken on the coast and in the interior. Sixteen Brazilian tribes are mentioned by Hervas, as speaking dialects of the *Tupi*, or *Guarani*, language,—a language spoken by the Tupi tribes of Brazil, the Guaranies of Paraguay, and the Omaguas of the Maranon, traces of which are found through an extent of 70 degrees. Fifty other tribes are classified by Hervas, as speaking different languages; but many of these latter have not been sufficiently investigated, nor has the number of their roots been ascertained. Seventy other Brazilian tribes have been found in the papers of the Jesuit missionaries, but without any notice of their language, for which reason Hervas could not catalogue them. It would neither amuse nor edify, to enumerate their names. The chief and most powerful of these tribes were the *Tapuyas*, the *Tupinambas*, and the *Aymores*. These successively migrated from the interior to the coast; the Tapuyas first, then the Tupinambas, and lastly, the Aymores. The Tapuyas possessed the whole coast from the Maranon to the Plata, but were driven by the Tupi tribes to the N. of Brazil.

Besides those above enumerated, along the coast and in the interior, a vast number of tribes inhabit the islands and both shores of the Maranon. We are not however to infer from this, that the indigenous population of this extensive tract was very great, or at all to be compared to the population of countries advanced in civilization, or even to that of Mexico or Peru. The numerous tribes of Brazil were of the very lowest order of savages; those parts only were inhabited which afforded plenty of game, while the sea-coasts and banks of the great rivers were frequented for the sake of fishing. So numerous were the natives on the Maranon, that the sound of the axe in the villages of the one tribe were heard in those of the other. Yet, notwithstanding (says Acunha) this close neighbourhood, they lived in a state of perpetual war, otherwise (wide as the country was) it would have been insufficient to maintain them. But Acunha did not reflect that while the banks of the Maranon were crowded with population, the interior was deserted. The fact is, that the very nature of savage life is inimical to population; and from the indolence natural to savages, their incessant petty warfare, and their precarious means of subsistence, savages never were nor can be numerous, however numerous may be the subdivisions of their tribes. As to the present native population of Brazil, it is impossible to say any thing with precision, but it is much less numerous now than formerly, partly from the unceasing warfare carried on between them and the Portuguese, in which many of the tribes have been wholly extirpated; and partly from the slave-system pursued by the colonists, in working the mines and sugar works. The same cruel plan of kidnapping the natives, as in Africa, with all the evils attendant on an internal slave-trade, fell heavy on the unhappy Brazilians. Hunting expeditions were annually made far into the interior, in search of Indians, by bands of slave-dealers; and the latter were conducted in thousands to the settlements on the coast, or to the mines in the interior, to supply the waste of human life occasioned by excessive and unwonted toils in the service of avaricious and inhuman masters.

We have already submitted major Schæffer's estimate of the Brazilian population, in 1824, at 5,306,418 souls. Sir George Staunton estimated it at 200,000 Portuguese, and 600,000 blacks, without mentioning the number of natives. By Beauchamp, the population, in 1806, was estimated at 800,000 Portuguese, 1,500,000 blacks, and 900,000 civilized Indians; making a total of 3,200,000; and by the same author, in 1822, at 4,000,000. By Humboldt, the population was estimated at 4,000,000, on the authority of Correa de Serrea, an eminent literary and scientific character, and a Portuguese. We subjoin in a note his letter to Humboldt on this subject.[6]

Manners and Customs.] The manners and customs of the native Brazilian tribes have been represented on the concurrent testimony of all who have written concerning this country, as rude and ferocious in the extreme. Most of them were cannibals. The Tapuyas ate their own dead as the last demonstration of love! When an infant died, it was eaten by the parents; and if an adult, all the kindred were partakers; the bones were reserved for marriage feasts, when they were pounded and taken as the most precious thing that could be offered. Yet, of all the Brazilian tribes the Tapuyas were the least cruel, never putting a prisoner to death, but selling them to the Portuguese; and the enemy who dared to shelter himself in one of their dwellings was safe, for no Tupaya ever violated that asylum, however strong his anger, or however great his provocation. On the contrary, the pride, the joy, and the religion of the Tupis, were in their cannibal feasts, where the prisoners were invariably eaten; and barbarous and revolting as was this practice, the Europeans made no efforts to reclaim them from it, but rather encouraged them in it, which rendered the task of civilizing and converting them still more arduous to their instructors the Jesuits. The French, who for a short time possessed Rio Janeiro, encouraged the savages to eat their rivals the Portuguese; and these latter permitted their allies to consider their enemies as beasts whom they were to destroy and devour.

Cannibal Feasts.] Priests, warriors, women, and children rejoiced in the prospect of a cannibal-feast, as an expiatory sacrifice to the manes of their brethren who had been slain,—as the public feast in which the old women displayed their mysteries,—and as a scene of merriment for the boys. The unhappy prisoner was feasted for a considerable time, and had beautiful girls to attend him, till he began to enjoy life and grow fat. The offspring of a captive was suffered to grow up; but the circumstances of his birthplace and upgrowing occasioned no humane feelings towards him; it was always remembered that he was of the flesh and blood of the captive; and when they thought him in the best condition, they killed and devoured him. The nearest kinswoman to the mother officiated as slaughterer, and the first mouthful was given to the mother herself. Nature, however, sometimes operated on the women; and they often took drugs to cause abortion, that they might be spared the misery of seeing their offspring butchered, or assisted their unhappy husbands to escape, and sometimes fled with them.* The women prepared their earthen vessels, made the liquor for the feast, and twisted the *mussurana*, or long cotton-cord that bound the victim. These cords are twisted with the greatest nicety and pains, being sometimes the labour of a year; they were then dipt in a kind of white birdlime, dried, rolled carefully up, and deposited in a new painted bowl. Some of the chiefs were dressed for the occasion; the body was covered with gum, upon which small feathers were stuck, and skilfully arranged according to their colours. The *ywara pemme*, or slaughter-club, was decorated with feather tassels, adorned with bracelets of shells, and the blade smeared with gum, over which a fine powder was laid, composed of egg-shells the colour of ashes. On this, one of the women traced some rude figures with a stile, while the rest danced round her: the head and face of the victim were ornamented in the same manner, after the pattern of the war-club; the weapon was then hung up, and the drinking feast commenced, at which the prisoner was present as a partaker. The next day was a day of rest, when a tent was erected in the area for the captive; and there, under a strong guard, he passed the last night of his life. In the morning it was demolished, and the area levelled. The women brought out the mussurana in the bowl and set it at his feet. The old woman who presided at these mysteries of the American Moloch, now began a death-song, in which the rest joined; while the men put a noose around the prisoner's neck and fastened it there, coiled up the ends, and laid them upon the arm of the woman who had him in charge. The song usually alluded to the weight of the noose. "We are they (it said) who make the neck of the bird stretch;" and in another part it mocked him for inability to make his escape, "Hadst thou been a parrot injuring our fields, thou wouldst have fled." Several men then laid hold of the mussurana by the ends, and tightened it on all sides, keeping him in the middle. During all these preparatory scenes, the captive, generally as willing to meet death as his tormentors to inflict it, would insult them, calling out to one that he had killed his father, to another that he had buccaneered her son. They now bade him take a full and final look of the sun. Stones and broken pottery were then placed by him, and he was told to revenge his death before he died; which, covered as the sacrificers were with shields, and impeded as he was by the cords by which he was pulled on all sides, he notwithstanding, sometimes did to their cost. This done, the fire at which his limbs were to be dressed was kindled before him. A woman then came out bearing the slaughter-club dancing and singing, and sporting with it before the face of the victim. One of the men then took it from her, and held it straight out to him, that he might behold it well; and he who was to be the slaughterer came into the area with 14 or 15 chosen friends, dressed for the occasion in gum and feathers, or in gum and ashes. He who had the club proffered it to the chief personage of the feast, but the head of the clan interposed, took it himself, and passing it with many antic gestures backwards and forwards between his legs, delivered it to the slaughterer who advanced towards the prisoner, and said, "Lo here am I who am about to kill thee, because thou and thy people have killed many of our brethren and devoured them." The captive answered, "It is the chance of life: my friends are many, and they will avenge me." This done, the Brazilian cannibal, more merciful, indeed, than the North American Indians and man-eaters, stunned him, or knocked out his brains with one blow. The body was instantly seized by the women, who dragged it to the fire, scalded and skinned it. The arms were cut off close to the shoulder, and the legs above the knee; and four women took each, a limb, and danced with them about the area. The trunk was then split. The intestines were left to the women, who boiled and eat them in broth; the head was also their share; but the tongue and brains were allotted to the children, whose faces and hands were also smeared over with the blood by their mothers, in order to accustom them to such scenes. The thumb was cut off, because of its use in archery: what was done with it does not appear; but it was not eaten like the rest. Every part of the body was devoured: the arms and thigh-bones were reserved to be made into flutes,—the teeth strung in necklaces,—and the skull set up at the entrance of the town, or sometimes used as a drinking cup, after the manner of our Scandinavian ancestors. The founder of the feast took an additional name as an honourable remembrance of what had been done; and his female relations ran through the house shouting the new title. The chief of the clan scarified the arm of the slaughterer above the elbow, so as to leave an indelible mark; and this was the star and garter of their ambition, the highest badge of honour. After this he got into his hammock, and remained there the whole day, practising with a little bow at a mark, from a superstitious fear lest the act of slaughtering should have deprived him of his skill in archery. Among some tribes, they rubbed his pulse with one of the eyes of the victim, and hung his mouth upon his arm like a bracelet. They had learned to consider human flesh as the most exquisite of all dainties; and it is remarked that even European refugees among them, have contracted a liking for human flesh. Delicious, however, as these repasts were deemed, they derived their highest flavour from revenge, and it was this feeling, and the sense of honour connected with it, that their Jesuit instructors found most difficulty in overcoming. No man was allowed to marry till he had captured a foe; nor was he suffered to be present at the cannibal feast if he remained single.

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[6] "One enumeration alone affords positive results, and it is that of 1797 and 1798. Before that time, the bishops were obliged to send to the king, as grand master of Christ, and consequently spiritual head of the colonies, at fixed periods, a state of the population of their dioceses. These statements were drawn up in the tribunal of the orders, called at Lisbon *Neza de Conscientia*. I was enabled to see and examine the results of the last statement sent to king Joseph in 1776. This statement only contained somewhat more than 1,500,000 souls; now the bishops only included the *souls of the communion*, because, according to the established custom, the curates kept a register of these persons alone, on account of the smallness of the fees exigible. All the inhabitants below ten years of age, were consequently not in these lists; and the Indians already reduced, or added to the missions, but not baptized, were omitted in the same manner. Without fear of exaggeration, I believe I may say, that at that period, in 1775, the total population was nearly 1,900,000 souls. The enumeration of 1798 was made with great care, but has never been published, and I have received none of the particulars. I have it, however, from the best authorities, that it gave considerably more than 3,000,000, which is not very surprising, because, in Brazil, the institutions, and perhaps the manners, are singularly favourable to population. The government has always given very liberally lands to colonists, and never sold any. The system of slavery adopted by the Portuguese, has a tendency to multiply the negroes: no nation imports a greater number of female negroes, nor is more attentive to the bringing up of their children. As to the Indians, it was formerly remarked by Condamine, that the civilization of the Portuguese Indians was very superior to that of Spanish Indians. Several years after the voyage of the French astronomers, king Joseph adopted an important political measure, assimilating in every thing the Indians to the Portuguese whites. This measure not having met with any opposition from the public opinion, the reduction of the *remaining* Indians has gone on rapidly and prosperously. The emigration from Europe has continued without any encouragement; and, according to the Portuguese custom, people have gone to Brazil to settle, and not for the sake of making their fortune, and then returning to the mother country. For some years past, details have been published in the French journals, which appear to me to be the results of the enumeration of 1798. According to these journals, Brazil contains 800,000 whites, 1,000,000 Indians, and 1,500,000 negroes; in all 3,300,000. If we add the natural augmentation in a space of 11 or 12 years, I am persuaded that the actual population must be nearly 4,000,000."

Though tribes continually quarrelled with tribes, yet the individuals composing the particular tribes never quarrelled among themselves. This arose from the necessity of union, and the frequent smallness of the tribe, *as without union the tribe would have been soon extirpated. When a wife brought forth a child, the husband confined himself to his hammock* and received visits of congratulation. This arose from the notion, that if the father were to suffer any accident, the new-born babe would suffer the same. No savage would kill any female animal while his wife was pregnant, for if it happened to be with young, he believed that his own off*spring would be cut off as a punishment for the sin he had committed against the mystery of life. For the* same reason, they would not eat eggs. They believed that man was entitled to a tail, and would be born with one, if the father of the bridegroom did not perform the ceremony of chopping sticks at his marriage, in order thereby to cut off this appendage from his future grandchildren. As soon as the child was born, its nose was flattened by crushing it with the thumb, and the lip was bored. If a boy, the father painted him black and red, and laid by him in the hammock a little bow and arrow, saying, "My son, when thou growest up, be strong and take vengeance upon thine enemies." Sometimes a bundle of herbs was added, as a symbol of those whom he was to kill and devour. Infants were not swaddled and cramped as in Europe, and were frequently washed in cold water, both for the sake of cleanliness and strength. The infant was named as soon as born; and, if a boy, the father chose the most manly and terrific name he could think of; he received another name when of age to go to war; and a new name or title was added for every prisoner brought home and presented to the cannibal feast. Chastity was by no means regarded as a virtue among them. Herding together in large and undivided dormitories, universal lewdness was the obvious consequence. If a man was tired of his wife, he gave her away, and took as many as he pleased. The more brutal the tribe, the worse the women were treated.

The Tupinambas were in some respects an improved race; and their wives were not treated with brutality, though they had more than their due share of labour, as they set and dug the manioc, sowed and gathered the maize. This practice of making the women perform agricultural labour, arose from an idea that if some plants were set by men they would not grow; and the Tupinambas proceeded probably on the same theory as the more barbarous savages of the Oroonoko, who explained it to Father Gumilla, when he remonstrated against it. "Father," said they, "you do not understand our custom, and that is the reason why you do not like it. Women know how to bring forth, which is a thing that we do not know. When they sow and plant, the stalk of maize produces two or three heads; the root of manioc, two or three baskets' full; and every thing multiplies in like manner. Why? Because women know how to bring forth, and to make the seeds and roots bring forth also." The women also spun and wove cotton cloths. Having taken the cotton from the pod, they pulled it abroad; no distaff was used, the spindle was about a foot long and a finger thick; it was passed through a little ball, and fastened the thread to the top; this they twisted between their hands, and sent spinning into the air, and could do it as they walked. In this manner they made cords strong enough for their hammocks, and likewise so fine a thread, that a waistcoat woven with it, which De Lery took to France, was mistaken there for silk. The women were also skilful potters, and glazed the inside of their vessels so well that it equalled European pottery. Earthen ware was in common use among the savages; and Lery remarks that in this respect they were better off than the French peasantry, who fed from trenchers and wooden bowls. They also made baskets of wicker-work and straw. They were grateful for favours, and hospitable to strangers, but unfeeling to the sick; and when they thought the case hopeless, neglected to give them food, so that many died more from want than from disease. Sometimes they carried them to be buried before they were dead, and some have recovered after having been taken down from their hammocks to be interred. The corpse had all its limbs tied fast, that the dead man might not get up and pester his friends with his visits; and whoever had any thing belonging to the defunct, produced it, that it might be buried with him, lest he should come and claim it. Provisions were buried with the dead, from a superstitious belief that otherwise the *Anhangá*, or evil spirit, would come and devour the dead. The Tupinambas are all stout, robust, and healthy; but were wont to go entirely naked, nor could be persuaded to put on clothes, which they viewed as an unnecessary encumbrance. The frequency of removals was a great hindrance to their improvement. When their palm-thatched lodges decayed, they never thought of repairing them, but migrated immediately to another spot, from a persuasion that a change of abode was essential to health, and that they should be destroyed if they departed from the custom of their forefathers. Thoughtless and improvident, they laid up nothing for the morrow, but spent freely what nature and their own imperfect industry laid to their hand. They were surprised at Europeans coming so far to their country in order to make fortunes for themselves or their children, and could not understand what possible motives could induce them to leave home, and cut down Brazil wood.

Mr Koster gives the following account of the *ciganoes*, or gypsies of Brazil: "I frequently heard of these people, but never had an opportunity of seeing any of them. Parties of ciganoes were in the habit of appearing formerly once every year at the village of Pasmado and other places in that part of the country; but the late governor of the province was inimical to them, and attempts having been made to apprehend some of them, their visits were discontinued. They are represented as being a people of a brownish caste, with features which resemble those of white persons, and as being tall and handsome. They wander from place to place in parties of men, women, and children, exchanging, buying, and selling horses, and gold and silver trinkets. The women travel on horseback, sitting between the panniers of the loaded horses, and the young ones are placed within the panniers among the baggage. The men are excellent horsemen, and although the packhorses may be overburthened, these fellows will only accommodate matters by riding slowly upon their own horses, and never think of dividing the loads more equally; but they preserve themselves and the animals upon which they ride, quite unencumbered. They are said to be unmindful of all religious observances, and never to hear mass or confess their sins. It is likewise said, that they never marry out of their own nation."

Although most of the Brazilian tribes have been gradually extirpated by their incessant wars with each other and with the Portuguese, by the introduction of European vices and diseases, and especially by the inhuman system of an internal slave-trade carried on for more than a century and a half; and although many tribes then existing have now withdrawn far into the interior, living in a state of ferocious independence, yet a considerable portion of Indians still remain under Portuguese jurisdiction. Upon these a considerable change has been produced by the address, perseverance, and unremitting labour of the Jesuits. Their cannibal feasts are now laid aside,—their manners are comparatively mild and civilized,—Indian slavery now abolished,—the natives have been raised to a political level with the whites,—villages of reclaimed savages are increasing,—and though their Portuguese neighbours and teachers are by no means the fittest persons in the world to instruct, enlighten, or improve them, by precept or example, yet a modern Brazilian Indian is a very different being in many respects from his ancestors of the 17th century.

Creoles.] The character, manners, and customs, of the Portuguese

Creoles, differ very little from those of the mother-country: whatever difference there is, it is to the worse. Laziness is a predominant feature of their disposition, and every species of labour which they can possibly avoid is intrusted to negroes. Want of cleanliness is prevalent throughout the whole country, though not in equal degrees, and shows itself in their houses, their clothes, their furniture, and in the manner of preparing and eating their food. To eat with knives and forks is unknown. This practice is, however, of oriental origin; it is common in Spain and Portugal, and was borrowed from the Moors. Cloaks and swords are generally worn by the men; and the usual dress of the ladies is a single petticoat over their chemise or shift. This latter is composed of the finest and thinnest muslin, and is very much wrought and ornamented. It is made so full at the bosom, that on the smallest movement it drops over one or both shoulders, leaving the bosom perfectly exposed; and, besides this, it is so perfectly transparent, that the skin is every where visible underneath. This violation of feminine delicacy appears the more disgusting, as their complexion is generally very indifferent, approaching to an obscure tawny colour. The negro-women are loaded with chains of gold around the neck. The females of Brazil, like those of other countries under the torrid zone, know no resting-time between perfection and decay; at fourteen they become mothers, at sixteen their beauty is full blown, and at twenty it is withered like the faded rose in autumn. Except religious ceremonies, there are few public amusements in Brazil. Their attempts at theatrical entertainment are wretched both in point of taste and execution. Music only (for which the people possess a natural talent) is performed with tolerable skill. But the favourite recreation is a dance composed of the Spanish fandango with the negro, and surpassing both in licentiousness. Growing refinement is, however, banishing gradually this indecent exhibition, which is now indulged with some degree of secrecy. Card-parties have begun to be introduced at Bahia. At Mr Koster's return to Pernambuco, in 1812, after an absence of scarcely one year, he found a considerable alteration in the manners of the place. The houses had been improved; and the ladies, in imitation of some families who had lately arrived from England and Portugal, had begun to walk abroad during the day; the English fashions had become general among both sexes; the equipages had assumed a gayer appearance; a greater number of country-residences had been built; land had also risen in price; labour was more in request; and grounds in the vicinity, formerly covered with brushwood, were clearing for gardens. The colonists are charged with craft and perfidy, vices natural to the subjects of every despotic and tyrannical government, of one, especially, which has imposed such a multitude of restrictions on commercial intercourse, at once ruinous and oppressive. Revenge and cruelty also are said to form prominent features of their character; and assassinations, if not at present, were, at least not long since, very frequent. Greater refinement of manners, in the southern provinces of Bahia and Rio Janeiro, has greatly alleviated these detestable passions, but in Pernambuco and the north they rage as much as ever. There are no inns in Brazil; and strangers who wish to be accommodated, for however short a time, must hire and furnish houses for themselves.

One peculiar trait of Brazilian colonial character is the general sentiment of equality which pervades all ranks, a feature of disposition hardly to be expected under such a government. The white servant converses with his master on the most equal footing; and, instead of promptly obeying his orders, discusses their propriety, and often advises a different course of proceeding, all which the master takes in good part, and often adopts his suggestions. The same manners used to prevail among the troops, and even on board ships of war.

Slaves.] This sentiment of equality—which cannot be esteemed the worst feature in Brazilian manners—operates with peculiar advantage in mitigating the severities of negro slavery. This class, in their manners, assume the same equality as their masters. They are well-fed, and are not hard worked. Two days weekly are allowed them to labour for themselves, by which means many are enabled to purchase their freedom, while others obtain it by favour. In no colony, where slavery exists, is it attended with greater mitigations. In addition to the two days per week, and the Sabbath, the Romish calendar gives the negro 35 holidays annually; and the master is compelled by law to manumit him for the price at which he was first purchased, or his present value, if it be greater than the first cost. In some of our own islands, every manumission costs £100, which is intended to operate as a prohibition, and renders the slave for ever one, as he is never able to purchase it. The law of manumission is sometimes evaded in Brazil, but the general voice is decidedly in favour of it, and the whole weight of clerical influence is exerted in its support. A woman who has reared ten children is entitled to her freedom. Many slaves are manumitted at the death of their master; and wealthy planters indulge in this species of charity during their lives. There is another law, by which the entail of slavery is very often cut off. If the sum of £5 is offered at the baptismal font, the master must manumit the child. This sum is often paid when the father is a freedman, and often also by the sponsers—the mother frequently, in hope of this bounty, soliciting some persons of consideration to take upon them this spiritual relationship to the child—in Brazil it is considered as such. By these various means, considerable numbers become free. In another respect the Brazilian slaves are much happier than those in our West Indian islands—they are baptized; and though the religion in which they are instructed is Christianity in its most debased form, yet they still derive many advantages from it, and are proud of it; the negro, till baptized, being considered as a very inferior animal. They are then regarded as men and brethren, as moral and intellectual beings; and, with the exception of a few individuals, who have much of the brute, and nothing of the Christian but the name, they are not subjected to the lash, as in the West Indies, or in the southern United States. In Brazil, as elsewhere, the richer the proprietor the better treated in general are the slaves, greediness being generally united with insensibility. Those upon church-property are best treated, and have little reason to regret their lot. The Benedictines, particularly, omit nothing which can contribute to their well-being. The children are carefully instructed in their religion, and generally solicit permission to begin their regular work before the age which the rulers of the state have appointed. Marriages are encouraged; and the good fruits of such an institution, and encouragement to obey it, completely disprove the assertion of Bryan Edwards, that those alone who are utterly ignorant of the negroes' nature can suppose that marriage could be introduced among them to any good purpose.

Upon states managed as above stated, the stock multiplies itself, and does not need to be replenished by purchase. The slave-trade, however, is still conducted with great inhumanity by the Portuguese.

The *Mamalucoes*, or *Mestizoes*, are a numerous branch of Brazilian population, and enjoy the same civil and political rights as the whites. Thus, from the comparatively mild treatment of the slaves, and the political equality of the whites, mestizoes, and Indians, the Brazilian population, though composed of the same elements as that of Spanish America, is not characterized by those rankling and mutual animosities which prevail among the various castes in Buenos Ayres, Peru, or Mexico, and will therefore more easily amalgamate into one common mass than their Spanish neighbours.

Ox-chase.] Mr Lucock thus describes the boisterous Brazilian amusement of an ox-chase: "After a ride of three or four miles on a large open plain, we found about 400 head of cattle. We rode gently round, to bring them into a more compact body, and made the animal which was to be chased distinctly known to every individual of the party. Our settled object was to drive him to the house; and, to render the sport as complete as possible, the *lasso* was not to be used until there appeared a probability that he would otherwise escape. Some of the people then dashed into the midst of the herd, attentively observing the selected animal. One-half of the oxen were thus driven at once from the spot, and others, which chose to do so, were permitted to follow without molestation; but wherever the victim turned, a horseman met him, and stopped his career. The work was easy until the remaining group was reduced to about twenty, which then made violent attempts to rejoin their comrades, and fiercely attacked the huntsmen who intercepted them. In a short time, four of them, being hard pressed, plunged into some watery ground about two miles from the house, and among them was the object of the chase. When driven from the water, this small number were more harassed than before, and, perceiving their danger, exerted themselves with redoubled violence. Sometimes we were obliged to ride hard; and great coolness and address were necessary to prevent their escape behind us and into a wood, which we were now approaching. In this last respect, our efforts were vain: they gained this refuge, and we could no longer act in concert. The wood was full of thick bushes of myrtle, and many trees spread their arms horizontally seven or eight feet from the ground. It was matter of high gratification, as well as wonder, to observe how our huntsmen rounded the bushes, and bent under the branches, so as sometimes to hang on the sides of their horses. Though unable to follow, I soon encountered our chief, who had made an unsuccessful cast with his lasso, and was disentangling it from the branches of a tree. I shall never forget the ardour and rapidity with which he afterwards darted and wheeled among the trees, nor lose the conviction fixed upon my mind, what execution such men, so trained, must be capable of in a country like this. My musings were soon interrupted by reaching the beach, and seeing at a distance our young hero, with the ox securely attached to his horse by the lasso, and leading the captive towards the house. The instrument had gone round his horns, and was fixed close to the crown of his head. The animal, thus entangled, advanced with the most malicious vexation, and made many ferocious efforts to gore the horse, which had before pursued, and now led him; but the wary creature, which had often before been yoked to an unnatural and violent mate, kept his eye upon the ox, and pulled at the lasso so as to keep it always on the stretch, and himself two springs in advance. In his precautions he was greatly assisted by his rider, who, with equal care, watched the maddening spirit of the beast, and gave signals to the horse. Convinced, at length, that his attempts to gore his leader were vain, the ox became sullen, and was partly dragged onward. While he was in this mood, the horse passed to the right of a detached bush, and the ox, by a sudden spring, got nearly abreast with him on the left: thus the lasso was brought over his back, and he was enabled to employ his utmost might to draw the horse round the bush; the horse also used all his power to counteract this manœuvre; and thus the great strength of the lasso was proved. By this time the whole party was again collected, and another lasso applied to assist in conducting the captive, which, seemingly conscious that he was completely subdued, walked along quietly. A boat had just reached the beach; and the people were still on board, when the treacherous animal, as soon as he came near enough, made an unexpected attack, and caused them to tumble, one over another, into the water, to the great amusement of the spectators. Returning to the hut, after a chase of three hours, milk and fruit were served to us in abundance; while the beast was taken from his former bondage and tied to a post, where I found him bellowing with madness, and still furiously striving to release himself. A man now came forward with an instrument called a facam, somewhat resembling both a large carving-knife and a short sword; and, warning every one to be on his guard, passed near the heels of the ox, and endeavoured, by a back-handed stroke, to hough him. The attempt was clumsily made, and the beast, though wounded, was not disabled. Another took the instrument, and used it with greater effect; when the ox gave a desperate kick at the operator, and, snapping the tendon, fell on his haunches. A third then drew a sharp knife across his throat: blood copiously followed; and, with a deep bellow, expressive of rage and agony, he yielded up his life. Immediately the people set about skinning the beast, and preparing a part of him for dinner. The former operation was performed in a workman-like manner; and the skin, as it was taken off, being carefully stretched upon the ground, preserved the flesh from blood and dirt. During this process, fires had been kindled, and had burned down to clear embers. Slices of flesh were then cut off from the ribs, as the choicest part, for the master and his guests, and roasted at a fire apart; afterwards, the attendants helped themselves as they pleased, and cooked their portion after their own modes. Horses are trained for the exercises of the field, by fastening a dry hide to the back part of the saddle, and allowing it to trail on the ground. As the horse moves, the hide rattles, and the noise alarms him: he attempts to fly, when it beats against his heels, and he kicks at it violently; but, soon convinced that all his alarm and rage are fruitless, he learns to be patient and quiet. In this state, a person mounts and compels him to move forward; at first gently, afterwards at an increased pace. He begins with trampling upon the hide; but this incommodes him, perhaps almost throws him down backwards; he then sets down his feet more carefully and safely. The contrivance induces him also to keep an eye turned on the object behind; while the rider takes him over rough or boggy ground, obliging him at the same time to look forward and mark where he is going. Thus he forms a habit of quickly discerning danger, and avoiding it, from whatever quarter it may come. So much are the Brazilian horses in general fenced against alarms, that I hardly ever met with one of the description which we call skittish."

Costume, &c.] Mr Lucock gives the following account of the costume and manners of the population of the Brazilian capital: "Of their dress and appearance we strangers were more competent judges than of their minds. The former is of the lightest sort. Among their familiar friends they are seen with a shift only, bound about the waist with the strings of a petticoat, and the bosom of it often falling off from one shoulder. They wear no stockings, and seldom either slippers, or the wooden clogs, with brown upper leathers, called *tamancas*. Their hair is long and too commonly uncombed, bound with a riband close behind the head, the ends turned up to the crown, and there twisted about a sort of bodkin. Sometimes a wreath of artificial flowers is added, ingeniously made by themselves of silk, beads, coloured papers, tinsel, and the wings of some of the brilliant insects of the country; these are arranged and worn with taste. Their manners are a contrast to every thing graceful—coarse, boisterous, and pert; they talk fluently, but commonly in loud and harsh tones; their general air is sly and coquettish; and they have no idea that their carriage can possibly excite disgust, or even that they can fail to be objects of admiration: they have few opportunities of conversing with the other sex, and what good fortune offers, they use with eagerness.

Such manners may be attractive to their countrymen, but their influence can extend no further. The ornaments of these females have a pleasing effect, and set off the charms of a face, the features of which are round and regular, of a black, lively, inquisitive eye, a smooth and open forehead, a mouth expressive of simplicity and good temper, furnished with a white and even set of teeth; united with a moderately handsome figure, a sprightly, laughing air, and a demeanour gay, frank, and unsuspicious. Such is the common appearance of a young lady about 13 or 14 years of age; a period when she usually takes upon her the cares of a household, or rather, notwithstanding obvious disqualifications, assumes the character of a matron. Indeed, at 18, in a Brazilian woman, nature has attained to full maturity: a few years later, she becomes corpulent, and even unwieldy, acquires a great stoop in her shoulders, and walks with an awkward, waddling gait; she begins to decay, loses the good humour of her countenance, and assumes, in its place, a contracted and scowling brow; the eye and mouth both indicate that they have been accustomed to express the violent and vindictive passions, the cheeks are deprived of their plumpness and colour, and at 25, or 30 at most, she becomes a perfectly wrinkled old woman.

"Early corpulence appeared to me to arise from their secluded and indolent habits. They were seldom seen out of doors, except when going to mass, so early as 4 o'clock in the morning, on *dias santos,* or days of sacred obligation; and even then, the whole form and face were so wrapped up in mantles, or enclosed within the curtains of a *cadeira,* as to preclude the enjoyment of fresh air, and to conceal every feature, except perhaps a wickedly talkative eye. These cadeiras answer, less commodiously, the same purpose as do the palanquins of the East. They consist of an arm-chair with a high back, to which is attached a long foot-board, and a canopy. Around the latter are suspended curtains of blue cloth, edged with some gaudy colour, and kept closed, as the machine passes along the streets, in order to conceal the haughty, or the constrained donna from public view. The whole is attached to a long pole, passing over the lady's head, and is suspended between two black men, who support it on their shoulders. Such were the only carriages used formerly in Rio by people of fashion; and like the modern chaise, to which they have lately given place, they were sometimes very splendid, being decorated in such a manner as might best display the taste, the wealth, and the rank of the owner. On the foot-board, which is large enough for the purpose, is often seated a little *senhora*, forming the same idle habits as her mother has done, and laying a foundation for future unwieldiness of a similar kind.

"The exercise which these ladies take is almost wholly confined to the house. Little exertion is necessary, and that little is opposed by inclination: they are surrounded by slaves, and it is their privilege to be waited upon. I have seen this carried to an extent which would be ridiculous, were it not something worse; and am sorry to add, that such sights are not unusual. A lady was seated on a mat, (one morning when I called upon her,) surrounded by a number of slaves, with needle-work in their hands; a drinking-vessel full of water being placed so as that she could conveniently reach it. She interrupted the conversation by suddenly calling aloud for another slave to come from a different part of the house. When the negress entered the room, the lady said to her, 'Give me that drinking-vessel.' She did so; her mistress drank, and returned it; the slave replaced it in its former situation, and retired without seeming to feel that the command was an extraordinary one, or that she had performed aught which she had not done a thousand times before. Ah! ladies, thought I, what wonder that you become corpulent, and ruin your constitution! these are the natural effects of inanity!

"Other causes of the change which has been noticed, might be found, I have often thought, in an obstinate adherence to unsuitable customs. The shrunk and furrowed appearance of the brow seems to me to arise, in a great measure, from following European fashions under the burning sun of the torrid zone, 'where the full tide of day is poured.' Even the white and genteel families of Brazil wear no covering on the head, no shade for the eye; hence the brow and pupil contract themselves as much as possible, to shield the tender organ from the superabundance of light. The walls of the houses too, both within and without, are universally whitened, heightening, by reflection, the mid-day glare, and sometimes producing an almost intolerable uneasiness in the eyes of persons possessed of the strongest sight. Is it wonderful that the forehead and eyes of delicate females should gradually assume an habitual contraction, which overclouds many a fair face with appearances that sometimes misrepresent the real turn of the mind? Premature age is owing partly to climate, partly to a constitution enfeebled and ruined by inactivity; most of all, to the unnatural and shamefully early age at which females are allowed to marry. Their early good-humour, or the show of it, soon wears away; they often become the very reverse of what they were, and exhibit the alteration too plainly. This change may be attributed principally to the childish ceremony, and more foolish flattery, with which every woman is treated, who ranks above the condition of a slave. They seem to be regarded by the men as dolls, or as spoiled children, whose whims must be gratified, and even anticipated; and she who has the greatest number obtains the most attention. The generality of ladies treated in this way, become, almost of course, fretful and peevish, and pour their spleen upon their slaves; and when these resist or neglect the orders given them, endeavour to subdue them, by a noisy and boisterous behaviour, not always free from malignity, and by castigation, not the less severe for coming from a lady's hand. Here is exercise, and perhaps the most efficacious that they ever take, quickening the circulation, giving some tone to the muscles, and discharging peccant humours, but at the same time destroying the temper, implanting in the heart the principles of a vixen, and stamping on the countenance the plain indications of what passes within.

"When a gentleman calls upon another, if he be not intimate at the house, he goes thither in full dress, with a cocked hat, with buckles in his shoes and at the knees, and with a sword or dirk by his side. Having reached the bottom of the stairs, he claps his hands as a signal to attract attention, and utters a sort of sibilant sound between his teeth and the end of his tongue, as though he pronounced the syllables *chee eu*. The servant who attends the call roughly inquires in a nasal tone, Who is it? and being told, retires to inform the master of the house what are the wishes of the visitor. If he be a friend, or one so well known as to be received without ceremony, the master quickly comes to him, and ushers him into the *sala*, making loud protestations of the pleasure given him by the visit, mixing his complimentary speeches with a great number of bows. Before business is entered upon, if that be the object, repeated apologies are offered for the free mode in which the visitor is received. And, indeed, there is often no little occasion for such apologies; for the gentleman very generally makes his appearance with a beard of many days' growth, with his black hair in the roughest state, though besmeared with grease, and with no clothing over his cotton shirt. This garment is indeed well made, and ornamented with needle-work, especially about the bosom. But then it is commonly worn in the house so as to expose the breast, and the sleeves are tucked up to the elbows. Or if, by chance, it be secured at the neck and wrists by its globular gold buttons, the flaps appear on the outside, hanging half way down the sides, over a waistband which secures round the loins a short pair of trowsers; while the legs are quite bare, and the feet covered with *tamancas*. All this is not very delicate, more especially as the skins of the Brazilians abound with hair, and are much sunburnt about the breast and legs.

"Should the call be a ceremonious one, a servant is sent to conduct the visitor to the sala, from which, as he enters, he often sees the persons who were in the room escaping at the other door. Here he waits alone, it may be half an hour, when the gentleman appears in a sort of half-dress. They both bow profoundly at a distance: after a sufficiency of skill in this science has been displayed, and thus time gained to ascertain each other's rank and pretensions, they approach, if unequal, with corresponding dignity and respect—if supposed to be nearly equals, with familiarity. The business is then entered upon, and despatched at once. These bows between strangers, and this slow approach, I almost like, as they give men some opportunity to measure and appreciate one another, and prevent a thousand awkward blunders and equally awkward apologies. With my countrymen in general, I participate in an abhorrence of the Brazilian embrace."

CHAP. VI.—RELIGION, LITERATURE, AND SCIENCE.

THE established religion of Brazil is popery, in its most showy and superstitious form. In the principal towns, hardly a day passes that some saint is not carried in procession through the streets, the figure of which, though rude and grotesque in the highest degree, is adorned with jewels and precious stones which are cheerfully lent by the wealthier inhabitants. The ceremony is accompanied by the populace with rockets, squibs, and other demonstrations of extraordinary joy. The manners and morals of the numerous orders of clergy, so common in all Roman Catholic countries, are generally said to be nowise ornamental to the sacred profession. Brazil, however, possesses one great advantage above the mother-country, in not being subjected to the horrors of the inquisition. Though monks are valued (as in all Popish countries) in proportion to the tortures which they inflict on their own bodies, yet here they have never been allowed to torture Jews and heretics. The tithes formerly belonged to the clergy; but as in the infancy of Brazil they were inadequate to their support, they petitioned government to have them commuted for a regular fixed stipend. The petition was agreed to; but in the meantime, by the improvement of the country, the tithes have increased, and are still increasing greatly in value, and now form no inconsiderable portion of the royal revenue; and the clergy, deeply sensible of their folly, complain grievously of this agreement, by which, for a temporary advantage, such a valuable revenue was surrendered.

The Jesuits were early established here, and were very successful in civilizing and instructing the Brazilian savages, especially those of the Tupi race, who were sunk in the most deplorable state of pagan darkness. Their greatest difficulty lay in that inordinate love of cannibalism which prevailed among these tribes. One of the Jesuits effectually succeeded in abolishing it among some tribes, by going through them and flogging himself before their doors till he was covered with blood, telling them he thus tormented himself to avert the divine wrath, which would otherwise be inflicted on them for this sin. The simple though cruel savages confessed that what they had done was wrong, and enacted heavy punishments against any person who should again be guilty of the practice. With other hordes, the Jesuits thought themselves happy in obtaining permission to visit the victims, and instruct them in the saving faith, before they were killed. But the savages soon took a notion that the water of baptism spoiled the taste of the meat, and would not, therefore, allow them to baptize any more. The Jesuits then carried with them wet handkerchiefs, or contrived to wet the shirt or sleeve of their habit, that out of it they might squeeze water enough upon the victim's head to fulfil the condition of salvation, without which they were persuaded that eternal fire must have been his portion. It is hard to determine whether they or their pupils excelled in this virtue of credulity, for the latter were as firmly convinced of the mysterious effects of 'aptism as their teachers, and if an epidemic distemper broke out amongst them, it was attributed instantly to the water of baptism. A cough and catarrh cut off many of them, this was ascribed to the same cause; in short, whatever calamity befell them was believed to proceed from these drops of mysterious water. The eagerness with which the Jesuits baptized the dying, and especially new-born infants who were not likely to live, confirmed them in this notion of the fatal effects of baptismal water. By perseverance, however, the Jesuits got the victory over this superstitious dread of baptismal water, and the natives were brought to believe that the use of it procured them more blessings than it had produced evil. The Jesuits taught them reading, writing, arithmetic, and music, of which last they were so passionately fond, that the little

Tupi children sometimes ran away from their parents to the Jesuits, to learn it. A Jesuit missionary, in his preaching expeditions, would have had four or five of these little choristers with him. When they approached an Indian village, one carried the crucifix before them, and they began singing the litany. The savages, like snakes, were won by the voice of the charmer; they received him joyfully, and when he departed with the same ceremony, the children followed the music. So convinced was the Jesuit Nobrega of the effects of music in civilizing them, that he indulged a hope that the fable of Orpheus was a type of his own mission, and that he was to convert the savages of Brazil by songs. For this purpose the creed, the Lord's prayer, and the catechism, were set to music, besides the ordinary prayers. These the savages sang to perfection, gradually became reconciled to the manual exercise of Romish devotion, and abandoned the pagan rites and inhuman feasts. Their success would have been more complete, and the whole savage tribes, whether on the coast or in the interior, would have been externally converted to a system, which requiring no exertion of intellectual energy, and addressing itself almost wholly to the external senses, demands little effort on the part of the convert, had they not been impeded by the selfish and cruel conduct of the colonists, who hunted them like wild beasts, enslaved, and debauched them. It is, however, entirely to these Jesuitic instructors that the remaining tribes owe their civilization, and external conformity to the religion established in Brazil. Bibles and testaments are not to be found in that country. These were never put into the hands of the natives, and the colonists are as ignorant of their sacred contents as the Indians themselves.

The religion of the Brazilians was, like that of other savages, confined to a few rude and imperfect notions. The Supreme Being they called *Tupa*, or 'Father;' but to him they addressed no prayers, and he was neither the object of their fear nor their hopes. They adored the thunder, which they designated by the same name of Tupa, and which they associated with mind. They had some faint notions of a future state. Their priests, called *Payes*, were a set of quacks and jugglers, who working upon their fears, pretended to have power over evil spirits, called the anhangas, in which the Brazilians firmly believed, and by whom they imagined themselves to be beaten and tormented. These imaginary evil spirits were nothing else but the Payes themselves, who appeared during night in hideous shapes, and beat them. So terrified were the savages for these evil spirits, that they kept fires burning in their huts all night; nor would they, if they could avoid it, ever venture out in darkness without a firebrand, for the same reason. The Tupinambas had a traditionary tale current among them, that two persons, one of whom they called *Zome*, taught them the use of the manioc. Their ancestors, they said, quarrelled with these benefactors, and shot their arrows at them, but the arrows turned back and slew those by whom they had been aimed; and the woods made way for Zome in his flight, and the rivers opened to give him passage. They added that he had promised to visit them again, and they pointed out his miraculous footsteps imprinted on the shore. An old Tupinamba told De Lery, a Calvinist instructor, upon hearing from him an exposition of the Christian system, that the same things had been told their fathers, (so many moons ago that the number could not be remembered,) by a stranger dressed as they were, and having a beard. Their fathers gave no heed to his words, and there came another after him, who gave them a sword of malediction. This story, he said, had been handed down from father to son. The Jesuits made a dexterous use of such traditionary tales; and St Thomas was feigned to have travelled to America to preach the gospel to the Indians.[7]

As to literature and science, little of the kind was till lately to be found among the Brazilian colonists. There was no printing press in the city of Pernambuco, though containing 25,000 people; nay, there was none in all Brazil, till the court took shelter there, and sent for one from England. *It must be remembered, however, that the state of our own Indian islands is little better.* Ten years since, the only bookseller in Barbadoes was an apothecary, who sold ruled accompt books. In all the Brazilian towns, schools for the teaching of the first rudiments are now to be found. The Lancasterian system is also in use. In all the large towns, masters of Greek and Latin, and professors of philosophy, rhetoric, geometry, chemistry, &c. are established. Rio Janeiro has a handsome museum, a school for engineers, and a naval college. Botany and mineralogy are also taught. There are public libraries at Bahia and Rio Janeiro, and printing-offices throughout all Brazil. Bahia has schools of medicine and surgery, and Pernambuco a botanical garden.

CHAP. VII.—GOVERNMENT—COMMERCE.

Constitution.] The *projet* of the Constitution of the empire of Brazil consists of four titles, divided into heads, and these again into numerous articles. The first treats of the territory, government, dynasty, and religion of the empire.—The territory of Brazil, the empire of which is, by article *1st, the political association of all the Brazilian citizens, forming a free and independent nation, which admits no bond of union or confederacy with any other which might oppose its independence*, is divided into provinces, such as they are at present; the minor divisions to be directed by the exigencies of the state. The government is monarchical, hereditary, constitutional, representative. The dynasty regnant is that of Don Pedro I., actual emperor and defender of Brazil. Nothing is said of his successors. The Catholic, Apostolic, Roman religion, is to continue the religion of the state. All other religions are permitted in houses set apart for the purpose, but not bearing the exterior form of churches. Such is the first title.

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[7] The fact of his American mission is thus logically proved by the Jesuit Vasconcellos: "Christ," he says, "said to his apostles, Go ye out into all the world, and preach the gospel to every creature. He that believeth and is baptized, shall be saved; but he that believeth it not shall be damned. Now," says this logical Jesuit, "with what reason could the American Indian be damned, if the gospel had never been preached to him? He who said all the world, could not leave out America, which is nearly a half. The gospel, therefore, must have been preached there by one of the apostles. But by whom was it preached? Not by St Peter, not by St Paul, not by St John; neither by St Andrew, St Philip, St James, St Matthew, St Thaddeus, St Simon, St Matthias, St James the Less, nor St Bartholomew. It must, therefore, have been by St Thomas." Accordingly his travels were mapped out from Brazil to Peru; they discovered baptism and the tonsure still in use among the natives from his times; invented traces of his pastoral staff, crosses, and inscriptions in Greek and Latin; and even brought his sandals and his mantle unconsumed out of the volcano of Arequipa. The Jesuit Vieyra assigns the following reason why Brazil fell to the lot of St Thomas, when the various provinces of the world were distributed to the apostles:—"Some modern writers have remarked that Christ enjoined the apostles to preach the faith throughout the world, after he had reproved them for the sin of unbelief, in order that the labour which they had to suffer in preaching the gospel, might satisfy, and as it were atone for their unbelief and hardness of heart which they displayed in not believing. As among all the apostles, St Thomas was the greatest unbeliever, therefore, in this division of the world, the mission of Brazil fell to him, because where there had been the greatest sin, it was just there should have been the heaviest penance; as if the Lord had said, The other apostles who have sinned less in unbelief, shall go to the Greeks, the Romans, the Ethiopians, Arabians, Armenians, Medes, Persians, Parthians, Elymæans, Sarmatians; but for Thomas, who sinned the most, let him go to the Brazilians, and atone for the obduracy of his unbelief, by teaching that nation, which is of all others the most barbarous and hardened. The effect has well shown this. When Brazil was first discovered, the footsteps of St Thomas were seen stamped on a stone, but no memorial of his preaching was found among the inhabitants. Traces of the preacher were found among the rocks, but not a trace of the doctrine among the people. The rocks preserve a memorial of the apostle, but the heart preserved no memorial of the faith which he had taught." A most precious sample this, of Popish perversion and Jesuitic ingenuity. The Jesuits, who then found him in Brazil and Peru, have since discovered him in the East Indies. The impudence of such audacious forgers can only be equalled by the gross credulity of those who believe them.

The second defines what is meant by a citizen of the Brazilian empire, how the rights of citizenship may be lost, and how suspended.

The representatives of the Brazilian empire, according to title 3*d*, are the emperor and the general assembly, to which, with the sanction of the emperor, belong the legislative powers.

This *Assemble Generale*, or parliament, is composed, like our own, of two houses—a chamber of deputies or commons, and a senate or chamber of peers. Each parliament is to continue for four years, and each session for four months; the sessions to commence annually, on the 2d of May. The number of members requisite to constitute a horse, and a number of other particulars, are also laid down. One of these is important—no member of either house can be arrested during the existence of parliament, except by the orders of the house to which he belongs, or when notoriously guilty of some capital offence. If a member be accused, the judge, before whom the accusation is laid, must report of the accused to the house, and it will decide if the process is to go on or not. *The deputies are to be elective and temporary, and to be elected by the provinces. The members of the senate are also elective, but their election is for life. They must be above 40 years of age, and possess an annual income of 800* milreas. The number of senators is to be one-half of the number of deputies, and both deputies and senators are to receive an annual salary—that of the senators being one-half larger than that of the deputies. Laws may be proposed in either chamber, and the ministers of the crown have the initiative.—If the *projet de loi* (the bill) be disapproved of by the chamber, when it is introduced, the chamber must submit their objections to the emperor; if passed in one, or opposed or altered in another, it must be sent back to the chamber where it was passed, with a notification to that effect. When both chambers have concurred, the bill is to be laid before the emperor, who may reject it if he see proper, but if two successive parliaments present the same bill, it is understood that his sanction is to be granted.

Chapter iv., title v., settles the succession to be in the heirs general of Don Pedro. If, by any unforeseen casualty, the line should fail, the parliament, during the life of the last of the race, are to choose a new dynasty. No stranger can succeed to the throne; therefore, the new dynasty must be native. The fifth chapter regulates the regency, in case of minority or infirmity of the prince regnant; the sixth treats of the ministers of state; the seventh of the council of state. The military force forms the subject of the sixth. All Brazilians are to be obliged to carry arms for the defence of the independence and integrity of the empire. The sixth title is occupied with the appointment and regulation of the judges, and courts of justice. The seventh title treats of the administration of the provinces and the provincial assemblies. It is worthy of observation that the trial by jury is to form a part of Brazilian judicature, and that the judges are not removeable without cause assigned, nor without a trial.

The private rights of individuals are:—1. Liberty of action, except so far as controlled by positive statute. 2. Laws are to be founded on public utility. 3. They are not to be retrospective. 4. Writing and printing are free without any previous censorship. 5. Every one may follow what form of religious worship he sees fit. 6. Every one may remain in, or leave the empire, and remove his property as he finds convenient. 7. Every man's house is his castle, and inviolable. 8. Persons are not to be arrested but on specific charges, and within a limited time these charges must be notified to them in writing. 9. Bail is admitted. 10. Except in cases of flagrant crime, no one is to be committed, unless by an order written by the competent authorities. Arbitrary imprisonment is punishable. 11. Judgment can only be pronounced by competent authority, agreeable to existing laws, and in the prescribed form. These are the chief points. A number of others follow, among which the most worthy of notice is a regulation guaranteeing the public debt, and another abolishing corporations, as shackles on the lawful industry and commerce of the state.

Revenue.] In addition to the monopoly of diamonds, and the tax of one-fifth on gold, and the salt-monopoly already mentioned, a duty of 2 per cent. is levied on all gold on its conveyance to Europe. There is also the seignorage on the gold coinage. Upon every gold half-doubloon, amounting in value to eight dollars, the king gains a dollar by the alloy, and the right of coinage. Besides the ancient duty of 10½ per cent. laid upon all colonial produce exported to Lisbon and Oporto, there is another duty of 2½ per cent. imposed, under the title of free gifts, since the earthquake of Lisbon in 1755. This tax is paid immediately after leaving the custom-house, whereas a delay of six months is given on the old 10½ per cent. tax, on giving good security. Various other duties are imposed on the transit of goods into the interior, which are both impolitic and oppressive. These duties are generally levied at the crossing of ferries, and are laid on according to the weight of the goods passing, without any reference to their bulk or value. All heavy articles consequently pay high, while woollens, cottons, and other light goods, pay only about eight or ten per cent. Iron, which is in great request, pays nearly 100 per cent. duty. Two pence per lb. is paid on all commodities which pass into the mining districts, and a new tax has been lately laid on house-rental. The weight of the taxes presses most severely upon the poorer classes. The tithes, as before mentioned, belong to the crown, and are raised upon cattle, poultry, agricultural produce, and even upon salt. For the due collection of the revenue, the country is parcelled out into districts, and the taxes of each district are farmed out to the highest bidder. These again dispose of their farm in small shares to others, who oppress and plunder the people of their own private emolument. Besides a tenth of all the cattle, which is levied on estates in the interior, meat in the shambles pays a duty of 25 per cent. Fish pays a tenth, and afterwards a fifteenth. A duty of ten per cent. is laid on every transfer of immoveable property, and of five per cent. upon all moveable property. Rum, whether for exportation or importation, pays a duty of from 15 to 20 per cent. Cotton pays a tenth, and on its exportation pays an additional duty of 1¼*d.* per lb.; and all goods imported, are liable at the custom-house to an *ad valorem* duty of 15 per cent.

There is a tax also imposed at Pernambuco for lighting the streets of Rio Janeiro, while its own streets are in a state of total darkness. The produce of these duties is expended in the support of the civil government, in which, owing to the excessive multiplication of offices with inadequate salaries, peculation and bribery prevail to such a degree as not only to escape punishment but even reproach.

The statement of Brazilian revenue, given by the navigator Bougainville, about half a century ago, was as follows :—

	Dollars.
150 Arrobas of gold, being the royal fifth	1,125,000
Diamond monopoly	240,000
Duty on coinage	400,000
Ten per cent. from the custom-house	350,000
Two and a half per cent. of free gift	87,000
Right of toll, sale of employments, offices, and generally all the profits of the mines	225,000
Slave Duty	180,000
Duty on oil, salt, soap, and tithes	130,000
Total	2,667,000
In British money	£600,075

The expenses of government for payment of troops and civil officers, charges of the mines, maintenance of the public buildings, and careening of vessels, amounted at that time to 600,000 dollars, or £135,000 sterling, which left a clear revenue of 2,067,000 dollars, or £465,075 sterling.

The revenue of Brazil, in 1822, was equal to 66,743,586 francs; and in 1823, to 94,721,960 francs. Brazil has no public debt, for although her financial returns present one of 30,000,000 of cruzados, they also embrace a credit of 33,000,000. Brazil besides possesses immense advantages, which enable the Government to dispense with loans, or furnish it with the means of reimbursing them. These consist in the sale of public lands. The progressive increase of the revenue of Brazil is shown by the following returns, from 1808 to 1820, inclusive, in francs:—

1808	14,361,900	1815	30,618,267
1809	18,424,381	1816	37,521,254
1810	33,018,093	1817	44,922,991
1811	23,253,051	1818	49,794.486
1812	20,428,832	1819	54,477,877
1813	36,751,264	1820	61,069,824
1814	27,423,354		

Military Force.] This is composed of regular troops and militia. The regular army was formerly very ill regulated, being badly clothed and poorly paid. Owing to the disadvantages of the service, it had to be recruited by impressment. The cavalry regiments which patroled the mining districts were, however, highly respectable both in point of discipline and equipment. The Brazilian army is composed of about 30,000 regulars and 50,000 militia; distributed, 6000 regulars and 15,000 militia at Rio Janeiro; 3,600 regulars and 22,000 militia at Bahia; 8000 regulars at Rio Grande. The remaining 10,000 regulars and 15,000 militia are scattered among the other provinces. The Brazilian navy is already composed of 30 vessels of all sizes.

Commerce.] At the era of the discovery of America, and for a long time after, the true principles of commerce were not understood. The European states were attached to systems of the most rigid commercial restriction. This attachment was still further strengthened by that jealousy and suspicion which have long formed component parts of the Spanish and Portuguese national character, and led them to adopt the *flota* system, by which all intercourse between the colonies and the mother country was permitted to be kept up only from certain ports, and at certain seasons of the year. This system was, however, adopted by Portugal on a more liberal footing than by her Spanish rival. Annual fleets were allowed to sail from Lisbon and Oporto; and as these cities, from their advantageous situation, engrossed almost all the commerce of Portugal, and were almost exclusively qualified for carrying on distant commercial enterprises, the restrictive system was probably not so severely felt. The ports in Brazil which were allowed to hold intercourse with Portugal were, in like manner, limited to four, Olinda, St Salvador (or Bahia), Paraiba, and Rio Janeiro. To these, the same remark may be applied, though not, perhaps, to the same extent. The regulation which prevented the fleets from sailing oftener than once a-year, was probably much more injurious. However, in consequence of the inferior regard in which Brazil was long held, she was happily exempted from that complicated system of restraint and monopoly under which the Spanish settlements laboured. It was perhaps to this circumstance that she was indebted for that measure of prosperity to which she silently attained.

As soon, however, as Brazil was discovered to contain gold and diamonds, and therefore began to be viewed as a source of immense wealth to the crown, the indifference to which she was hitherto treated ceased, and a general system of rigid restraint, which cramped her growing prosperity commenced. In the very middle of the 18th century, when more liberal and enlightened ideas of commercial intercourse were gradually adopted by every other nation, Portugal alone embraced the exploded system in its fullest extent. Under the administration of the Marquis de Pombal, a system of exclusive companies was carried to such an extent as even to subject Port wines, the staple commodity of the kingdom, to a monopoly. Extending this system to Brazil, he subjected to an exclusive company the trade of the northern captaincies of Maranhao, Pernambuco, and Para. The regulations of this company were in some respects of a nature peculiarly preposterous. Ignorant of the limits which bound the authority of the sovereign in commercial affairs, the court of Lisbon decreed that the shares in the company's stock should bear a certain price; and in order to enforce this regulation, it was ordained that they should be a legal tender of payment. It was impossible that such an order as this should ever be executed, and could not but lower the credit of the company, and embarrass its transactions. A material diminution of course soon took place in the commerce of these captaincies. The number of vessels employed sunk from 13 to 4. This ruinous and injudicious measure was, however, repealed by the successors of Pombal.

The system, however, of commerce between Portugal and Great Britain has been on a much more liberal footing than that between Spain and her colonies, and the productions of other European countries more easily admitted. This was owing principally to the intimate connection between the two powers. Portugal, from its position with regard to Spain, and its inferior magnitude, was always in danger of being swallowed up by a more powerful neighbour; and from the moment that the Bourbon dynasty filled the Spanish throne, no aid was to be expected from France, in maintaining her independence. To Great Britain she therefore naturally looked for protection; and in order to cement the alliance with that power, she granted some commercial privileges, which her colonial possessions rendered peculiarly valuable. On the 20th of December, 1703, a treaty was concluded between the two powers, by which the manufactures of England were allowed to be imported into Portugal on terms more advantageous than those of any other European country. England made a similar stipulation in favour of Portuguese wines, so that it seemed doubtful on which side the balance of advantage lay. The article, however, which most excited British exultation and European envy, was rather understood than expressed. It was fixed that an English packet boat should sail weekly from Lisbon to London. As this vessel belonged to government, it was exempted from search, and an opportunity was thereby afforded of eluding those strict penalties which attend the exportation of gold; but it was soon complained that all the gold of Brazil took the road to London. Sounder views have since shown that all this noise was senseless, and this envied advantage wholly chimerical; that all the gold necessary for our circulation would of itself have found its way into this country; and that, even if Portugal could have rendered her prohibitions effective, the injury would have been on her side, not on ours. The free introduction of British manufactures was, however, a mutual advantage to both nations; it rendered the supply of many of the comforts and conveniences of life more copious in Brazil than in most of the Spanish settlements; and they were often supplied on still easier terms by means of contraband trade. British vessels on their way to the South sea, or to the East Indies, usually touch at the friendly ports of Brazil, and often find means to introduce European commodities at a cheaper rate than they could be sent from Portugal. Previous, however, to the emigration, the court had adopted very strict measures to prevent this irregularity.

By a commercial treaty, concluded soon after the emigration of the royal family to Brazil, and dated the 19th February, 1810, the trade of Brazil was thrown open, in all its ports, to the vessels and produce of Great Britain, upon paying a duty of 15 per cent. All the former restraints being thus removed, an immense stimulus was given to trade and improvements of every sort; industry freed from the pernicious restraints under which it formerly laboured, was excited to new and active exertions, by a higher price and greater demand for its produce. This effect has taken place to a considerable extent already: in 1820 Brazil exported in return for British manufactures, to the amount of £1,860,000; and in 1821, of £2,500,000. In 1828, the declared value of British goods exported to Brazil was £3,518,297.

It is impossible to state the annual average of imports and exports belonging to Brazil. As it is a growing colony, it is plain that no tables of these can give an average where the commerce is increasing. The latest tables are 20 years back, and give no idea of the present extent of Brazilian commerce. Before the commencement of the present century, however, the colonial exports from the port of Rio Janeiro amounted, for a considerable number of years, to £1,613,975 in value. Of these exports, the gold formed about one half, or £800,000 sterling; and the silver amounted to 700,000 dollars, which, at 5*s.* each, were equal to £175,000 sterling. The silver is sent to China and India. The Brazils have no silver mines, hence the silver is procured from the Spanish settlements; and what is not exported is coined into crown-pieces of 5*s.* each, for the use of the colony. The raw hides are chiefly procured from Rio Grande. The cochineal is from the Spanish settlements on the Rio Plata. Brazil wood, from which this extensive country takes its name, is exclusively *produced in the captaincies of Pernambuco and Ilhios; and the annual quantity of this article exported from Pernambuco alone, amounts in value to £40,000 sterling.*

[illegible]

RIO JANEIRO

[illegible]

With a government of her own, Brazil will soon possess a national navy. Nearly 1200 leagues of coast, the navigation of the Amazons and the River Plate, the best ports in the universe, an immense interior navigation, superb fisheries, a geographical position the most enviable, and also the most durable materials for the construction of vessels, are among the advantages which must render Brazil the most imposing maritime state in the southern hemisphere.

CHAP. VIII.—CHIEF CITIES.

Rio Janeiro.] The discovery of Rio Janeiro by De Solis, in 1516, on the 1st of January, gave rise to its name. Strictly speaking, there is no such river as the *Rio Janeiro,* for the city does not stand upon the banks of a river, but on the N.E. side of a large bay communicating with the sea by a narrow inlet, which De Solis took for the mouth of a river. So long as St Salvador, or Bahia, continued to be the capital, Rio Janeiro was comparatively neglected. But when, towards the end of the 17th century, gold and diamond-mines were discovered in the districts immediately behind, and attracted the attention of government, Rio Janeiro rose to be a place of first-rate importance; and its admirable harbour caused the seat of government to be soon transferred thither. This harbour is perhaps the finest in the world, and is formed by a narrow opening in the ledge of rocks which walls all this part of the coast. In the middle of this narrow opening rises a rock, resembling a sugar-loaf in form, 100 feet high, and 60 feet round. The strait is only half a mile wide; and near this entrance is a small island, about a mile in circumference, surrounded with rocks, and having only one landing-place, and in its centre a rock 50 feet in height, on which, while the French had possession of the place, they erected a fort. This island is, however, destitute of water. No sooner has the mariner entered through this strait than he is struck with one of the grandest spectacles in nature,—a most magnificent bay, 100 miles in compass, surrounded with a vast amphitheatre of mountains, rising in every varied form and covered with eternal verdure. These mountains are denominated the *Organ mountains,* from some fancied resemblance in their general outline to that instrument. This immense harbour has every appearance of having been once a large fresh water lake which has broken down its barrier. Vessels of all dimensions may enter, and repose with perfect security in every part of it. The finest view of the city is from the harbour, whence its lofty eminences crowned with convents, and the hills in its environs, interspersed with villas and gardens, have a rich and magnificent appearance. The streets here are all very narrow, few of them exceeding 20 feet, and most of them less; this affords a partial protection from the sun, as there is generally a shade on one side or the other. The city in many parts bears the appearance of decay and neglect, more particularly as regards the chapels and convents, which are numerous. Many of their churches present a very grand appearance, being built of dark stone, which, in some instances, is left in its natural state, and in others rough cast. The interior is generally handsomely ornamented with gold and silver, but the architectural part is very rude, and needs a good deal of ornament to screen its defects. The emperor's palace is a very plain building with no deviation of style from the generality of private buildings in Rio; it faces the water, and has an open space in front, and on one side, which is called palace square, and is the fashionable promenade in the cool of the evening, and the landing-place for all boats coming off from the vessels in the harbour; there are no wharfs built out, but all vessels must lie in the stream. Water for the use of the inhabitants is brought from the neighbouring hills by aqueducts, but in dry weather the supply is rather scanty. Provisions are plentiful, but very indifferent in quality. The inns and public-houses are destitute of accommodation, and house-rents are as high as in London. The city is gradually extending, by the erection of public and private buildings; merchants and tradesmen of every description appear to be busily employed, and all classes display an unbounded propensity to mirth and pleasure. Rio is estimated to contain 200,000 inhabitants, including slaves, which are in the proportion of six to one freeman; 10,000 are said to be imported here annually. The entrance to the harbour is well protected by batteries on the rock in the middle. Yet, in spite of these batteries, a French fleet entered, during the succession war in 1711, commanded by the celebrated admiral Duguy Trouin, who, with the most daring valour, led his ships through all the range of batteries which defended the entrance, and carried the place by storm: but at the peace of Utrecht it was restored to its former possessors. Rio, according to Captain Lindley, is situated in 43° 39′ 45″ W. long. and 22° 54′ 50″ S. lat.

St Salvador, or Bahia.] This city is now generally called *Bahia*, and is situated on the eastern side of the noble Bay of Todos Santos, having the continent on the right hand, and the island of *Itamarca*, on the left hand. The entrance is 3 leagues wide; and the bay extends a whole degree to the northward and westward, and branches inland in every direction, with deep water every where, and many navigable rivers discharging themselves into it. Here the united shipping of the globe might cast anchor and be fully accommodated; while above 100 islets diversify the surface of this little Mediterranean. The city is founded on a rocky and uneven situation, in many places rising 600 feet above the sea, and mostly impracticable for carriages, whence the chief people go in palankeens, carried by two negroes on their shoulders. The city faces the bay on the right, and has a single street parallel to the beach. It is strongly fortified both by nature and art, but the garrison and artillery are often inadequate. Its principal defence at present is a small fort situated on a small rocky bank, about three-fourths of a mile from the shore. The shipping, by lying between this fort and the city, are placed under its protection. The passes leading inland, to the N. and S., are also defended by two forts. Ships of war are constantly building; but as the dock-yard admits only one at a time, the augmentation cannot be very rapid. The houses of the city itself, independent of the suburbs, are upwards of 2,000 chiefly of stone, but they are by no means beautiful; those even of the most opulent, having a dull dirty appearance from the street; while those of the lowest rank are composed of tiles open to the roof, and have wooden unpainted lattices instead of windows. The streets are narrow, dirty, and ill-paved. The most magnificent structures are the churches and public offices. The church of the ex-Jesuits is the most magnificent edifice in the whole city, being entirely built of European marble, while every species of ornament is lavished on its interior. The population of the city and suburbs is estimated at 100,000; 30,000 of whom are whites; 30,000 mulattoes; and 40,000 negroes. The commerce of this city is very extensive. It is the centre of all the trade of these districts, and the medium through which they transmit and receive commodities to and from Europe. The trade to the more distant provinces of Brazil is also considerable, particularly that to the southern provinces of Rio Grande. The European commodities carried thither, are disposed of not only to the Portuguese inhabitants, but also to the Spaniards of Monte Video and Maldonado; and the vessels in return bring dried hides and beef, the produce of the vast meadows which extend in the vicinity of these settlements. W. long. 38° 32′ 30″, and S. lat. 12° 58′.

Pernambuco.] This is a city of considerable size and importance. The name is derived from the Portuguese term *Inferno bokko*, signifying 'the mouth of hell,'—the entrance of its harbour being full of concealed rocks and shoals. It was called *Reciffa* by the Portuguese, a word denoting a harbour or receptacle,—a natural opening in the reef which runs along the coast having formed here a harbour. This city, after its capture by the Dutch in 1630, became the capital of their Brazilian conquests, and the residence of Prince Maurice of Nassau, and was greatly enlarged, beautified, and strengthened by him. The princely gardens into which, with characteristic grandeur, he had transplanted full-grown trees, have disappeared; but other works remain, and among them the two bridges which connected the different quarters of the city, and were the first erected in Brazil. The present population is estimated at 60,000; and it is encreasing so rapidly that new houses are building wherever space can be found. It labours, however, under a deficiency of fresh water, which is brought thither from Olinda, a league distant, or from Cape Varibe, by canoes. The town much resembles one of the provincial cities of Portugal—unglazed windows, balconies, and lattices—shops without windows—the houses lofty, and the ground floors occupied as warehouses, or stables, or cellars.—squares, churches, and convents in abundance. Increased wealth, and frequent intercourse with strangers are here producing a rapid change of manners. Formerly, in Pernambuco, one member of every family, at least, was a friar; but now (says Koster) children are brought up to trade—to the army—to any thing rather than to a monastic life. Such is the change produced in Pernambuco, since the treaty of 1810. W. long. 35° 15′; S. lat. 8° 5′.

Villa Rica.] This is one of the most singularly situated places, on the face of the earth. "Nothing less powerful than the love of gold," observes Mr Luccock, "could have raised a large town on such a spot." The environs, unlike those of opulent towns in general, exhibit few signs of cultivation: not an acre of good pasture, nor an inclosure of any kind, is to be seen. Yet, though hidden in a narrow defile, and surrounded by mountains and unfruitful stony campos, it has always been a favourite spot to which not only Paulistas, but Portuguese have resorted in great numbers. No other town in the interior of Brazil, according to Dr Von Spix, has so brisk a trade. Besides the road to the capital and that by way of St Joao d'el Rey to St Paula, there are roads by Minas Novas to Bahia, and by St Romao, Tejuco, and Malhada, to Paracutu, Goyaz, and Matto Grosso. Almost every week, large convoys set out with the productions of the country, cotton, hides, marmalade, cheeses, precious stones, bars of gold, &c.; bringing back, in exchange, from the capital, salt, wines, calicoes, handkerchiefs, hams, iron-ware, and *new negroes*, to be employed in gold-washings, &c. "Till lately," says Mr Luccock, "it enjoyed almost exclusively the trade of Goyaz and Cuiaba, which it now divides with St John d'el Rey." Almost all kinds of trades are carried on here; the principal are saddlers, tinmen, and blacksmiths; there are likewise manufactories of gunpowder, hats, and pottery. There are no goldsmiths, that trade being prohibited. From the steepness of the streets, wheel-carriages would be almost as useless here as in Venice. As a substitute for them, a large vehicle like a sedan is used, carried by mules, instead of men; the workmanship is very clumsy. Owing, perhaps, in some measure, to the temperate climate, the people of this country are represented by Mr Luccock as advanced a few steps in industry beyond most of their countrymen. "They spin and weave wool, worsted, and cotton; but their manufactories are purely domestic; their implements and modes of using them, of the oldest and most unimproved description. Perhaps, when the rage of mining is over, this district might become more wealthy from commercial establishments, of which these are the embryo, than from all the gold which it has ever collected. This, however, will be thought by some an extravagant estimate of the value of manufactures, when it is known that, in little more than a hundred years, according to the entries at the smelting house of Villa Rica, this place alone has sent into circulation *more than two millions of pounds true weight of gold.* When to this mass is added what has been issued from other places, may it not naturally be asked,—Where is it now?" The population of Villa Rica is stated by Dr Von Spix (1818) at 8,500 souls; a very low number in proportion to the number of the houses, on the supposition that all are occupied.

Other cities of importance are as follows:

	Inhabitants.
Belim, or Para, W. long. of Greenwich 48°, 1° 30′ S. lat.	18,000
St Louis de Maranhao, do. 43° 40′ W., 2° 32′ S.	20,000
Siara, 38° 23′ W. of do. (Paranaiba) 3° 31′ S.	9,000
Cachoeira, (Province of Bahia,)	16,000
Porto Alegre,	14,000
Alagoas,	14,000
Cuiaba, (Province of Mattogrosso,) 56° 2′ W. 15° 33′ S.	30,000
St Pedro,	10,000
St Paulo,	16,000
Camita,	12,000
Sabara,	9,000
Villa Boa, (Province of Goiaz,)	8,000
Seregippe del Rey,	9,000
Santarem,	8,000
Cachias, (Province of Maranhao,)	8,000
Santos, (Province of St Paulo,)	7,000
Villa Bella, (Province of Mattogrosso,)	6,000
Tejuco,	*6,000*
Paraiba, 35° 30′ W., 6° 40′ S. lat.	*6,000*
Olinda, (Province of Pernambuco,) 35° 15′ W., 8° 2′ S. lat.	*7,000*
Piauhy, (Province Piauhy,)	5,000
Natat, (Province of Rio Grande,)	3,000
Goiana, (Province of Rio Grande,)	5,000
Cividad La Victoria, (Espiritu Santo)	5,000
Rio Negro, (Portuguese Guiana,)	4,000
Porto Seguro (Porto Seguro,)	3,000

San Catharine.] Before dismissing this part of the subject, it will be proper to give a short description of the island of San Catharine, as it is now, by the late treaty of 1810, declared a free port for British commerce, and in which British merchants may settle and practise their religion without molestation. This island lies off the coast of Brazil and province of St Vincents, being separated from the main land by a narrow channel, in some places not half a league broad. Its breadth from E. to W. is only two leagues; but from N. to S. it extends 8 leagues,—the north point (according to the manuscript charts seen by Captain Lindley) in W. long. 47° 36′, and the S. point in 47° 43′; the latitude of the island itself is 27° 40′ S. The soil is extremely fertile, and produces rice, maize, manioc, excellent coffee, oranges perhaps the finest in the world, and a variety of other fruits. Sugar and indigo are also produced, but in small quantities. The palm-trees, seen in all directions, have a very pleasing effect. The surrounding seas produce an abundant supply of fish. The island with its dependencies, is estimated to contain 30,000 inhabitants; and is defended by five fortresses, of which the most considerable is *Santa Cruz.* The capital, of the same name, is situated on its eastern shore; and its port, which is guarded by the fort of Santa Cruz, may be entered by ships of 300 tons burden. The town consists of several streets, and contains about 6,000 inhabitants. The houses are well-built, being generally from two to three stories high, with wooden floors, and provided with neat gardens, well-stocked with excellent vegetables and flowers. From its situation near the mouth of the Plata on one side, and the opulent capital of Rio Janeiro on the other, it is admirably calculated for becoming the emporium of an extensive commerce.

BUENOS AYRES;

OR THE

UNITED PROVINCES OF SOUTH AMERICA.

This country, though elevated to the honour of a viceroyalty only so late as 1778, was not only the greatest in point of extent and political importance of all the governments of Spain in South America, but that also through which the chief opulence of her colonial possessions in this quarter of the globe passed to the parent-state till the late revolution. This vast territory approaches to the shape of an oblong square. Its extreme length, from the Desaguadero, in S. lat. 38°, to the frontiers of Peru, in S. lat. 14°, is 24 degrees, or 1,660 British miles. Its greatest breadth, from the junction of the Parana and Iguri, in S. lat. 22° 30′ and 54° W. long. to the shore of the Pacific, in the province of Attacames, in the same latitude, and 70° 30′ W. long. of the above meridian, is 16 degrees of longitude, which in that parallel of latitude are equivalent to 1060 British miles; N. of this parallel, the breadth gradually, though irregularly, contracts to 450 British miles, on the frontiers of Peru, in S. lat. 14°. In the southern part of this territory, the breadth, from the mouth of the small river Chuy, in 33° 40′, which constitutes the S.W. boundary of Brazil, to the foot of the Chilian Andes, in the same parallel, is upwards of 900 British miles; and from Cape Lobos, near the southern extremity, to the same chain, is nearly 700 British miles. The whole superficies is estimated by Estalla to contain 175,000 square leagues, of 25 to the degree, or 1,442,000 British square miles. But its superficies has been more accurately fixed by Mr Oltmanns, at 143,014 square leagues, or 1,096,440 British square miles. Within these bounds are included the savage *Chiquitos*, and *Moxos*, on the north; the province of *Cuyo*, formerly included in Chili, on the west; and the *Pampas*, or wide plains on the south.

Boundaries and Divisions.] The present political boundaries of this viceroyalty are Brazil and the Atlantic ocean on the E.; on the N.E. the large province of Matto-Grosso, belonging to Brazil; on the N. that part of Amazonia, or Nova Colonna, included in the Portuguese territory, and those eastern portions of Peru possessed by wandering and independent Indians; on the N.W., the chain of Vilcanota, which separates the partidos of Lampa and Carabaya, in this republic from those of Collahuas, and Canes, and Canches, in Peru; on the W., the chain of the Andes, which separates it from Peru and Chili, except in the maritime tract, between the rivers Loa and Salado, comprehending the desert of Attacames. This viceroyalty, by an ordonance of his Catholic majesty, in 1778, was divided into 5 provinces and 9 intendancies. The provinces were *Buenos Ayres*, or *Rio de la Plata*, *Paraguay*, *Tucuman*, *Los Charcas* or *Potosi*, and *Cuyo*,—the two last provinces having been separated from Peru and Chili. The intendancies were *Buenos Ayres*, *Salta*, *Cordova* including Cuyo, *Potosi*, *Plata*, *Puno*, or *Paucarolla*, *La Paz*, *Cochabamba*, and *Paraguay*. The *partidos*, or minor subdivisions, were the following, proceeding from N. to S., namely :

1. Tuyu,
2. Pampas,
3. Buenos Ayres,
4. Cordova,
5. Cuyo and Mendoza,
6. Charcas,
7. Guarania,
8. Paraguay,
9. Chaco,
10. Salta,
11. Jujuy,
12. Chichas and Tarija,
13. Lipes,
14. Attacama,
15. Potosi, or Porco,
16. Plata,
17. Santa Cruz de la Sierra,
18. Chayanta,
19. Oruro and Paria,
20. Caranges,
21. Pacajes,
22. La Paz,
23. Cochabamba,
24. Sicasica,
25. Laricaja and Omascuyo,
26. Chucuito,
27. Puno, or Paucarolla,
28. Lampa,
29. Asangaro,
30. Carabaya.

The province of Los Charcas, or Potosi, now belongs to Bolivia; and the Cisplatine republic or *Banda Oriental* has been formed out of the province of Rio de la Plata. Balbi has assigned 3 Independent States to the Viceroyalty of Buenos Ayres, namely :—Bolivia, already described—the Directorate of Paraguay, under Francia—and the United States of the Rio de la Plata, exclusive of the Cisplatina, or Banda Oriental, which he has included in Brazil. To these collectively he assigns a territorial surface of 1,412,000, British square miles, excluding the Banda Oriental. Thus Bolivia, or Upper Peru 413,000 British square miles, and 1,300,000 inhabitants—Paraguay, 89,000 British square miles, with a conjectured population of 250,000 inhabitants—Rio de la Plata, 910,000 British square miles, and 700,000 inhabitants. Subtracting Bolivia from the old viceroyalty under the former regime, there remains, according to his table, 999,000 British square miles for the states of Paraguay and Rio de la Plata, exclusive of the Banda Oriental. The population of the whole viceroyalty, as given by the report of the American commissioners, sent to *Buenos Ayres in 1818, to the American* Congress, is the following :—

District of Buenos Ayres	*150,000*	*Santa Cruz de la Sierra*	*150,000*
District of Tucuman	65,000	Rioja	20,000
Valle de Callemarca	40,000	Jujuy	25,000
San Juan	34,000	Banda Oriental, and Entre Rios	50,000
San Luis	16,000	Cordova District	100,000
Salta	50,000	St Jago del Estero	60,000
Potosi	250,000	Mendoza	38,000
La Paz	800,000	Paraguay	300,000
Oruro	50,000		
Cochabamba	200,000	*General total,*	*2,573,000*
La Plata, or Los Charcas	175,000		

Of this aggregate 1,300,000 are Spaniards, and Creoles. *But in the districts* of St Jago del Estero, Valle de Callemarca, Rioja, San Juan, Mendoza, San Luis, Jujuy, and Salta, the Indians are not included. Subtracting *the population of Bolivia amounting to 1,575,000; according to this* report 998,000 only remains for the population of Paraguay, Rio de la Plata, and the Banda Oriental, and the Entre Rios. We presume not to say that either of these statements is correct, having no data but the authority of Balbi in the one, and the report of the American commissioners in the other. Our opinion, however, is that both are very vague estimates, and that till we have some better statements than these, we must rest contented with our present ignorance, and more accurate accounts we are not likely to obtain, till some regular vigorous system of government shall have been consolidated in Spanish South America.

CHAP. I.—HISTORY.

The accidental discovery of the coast of Brazil by Alvarez de Cabral, in his way to India, in 1500, paved the way for exploring the continent of South America. The year following, its eastern shore was coasted by Amerigo Vespucci, as far as 52° S. lat., but he was compelled by the cold and tempestuous weather to retire to Lisbon without making any important discovery. In 1516, the entrance of the great river La Plata was first discovered by Juan Diaz de Solis, who communicated his own name to the stream. Fearful of venturing too far up the river with his little squadron of three ships, as the navigation seemed both dangerous and difficult, he sailed along its northern shore in his long-boat, and discovering some savages on the beach, who, by their gestures and signs seemed to invite him on shore, he imprudently landed with a few men, without taking proper precautions for his safety, whereupon he and his followers were immediately killed and devoured by the Indians, within sight of their companions, who remained in the boat, but who were unable to render them any assistance. Such was the unhappy fate of De Solis, the first discoverer of the Rio de la Plata, which ought, in justice to his memory, to have retained his name; the banks of the river whose magnificent entrance he found, neither afforded him a grave nor a monument.

The Portuguese, who had heard of the immense riches of Peru, and were now in possession of the Brazilian coast, attempted to explore this country by an overland march from Brazil. The attempt proved unsuccessful and disastrous; for after having penetrated into Peru, and collected a considerable mass of the precious metals, their commander Garcia was massacred, with all his companions, by the Indians, after they had reached the banks of the Paraguay on their return to Brazil. This misfortune was succeeded by another. A party of Portuguese who had been sent in consequence of the first intelligence of the success of Garcia, to reinforce him, and form a settlement on the Paraguay, found it impossibe to proceed from the determined opposition of the natives, and after losing their commander and several men, they retreated towards the Parana, in attempting to cross which most of them were drowned.

Cabot's Expedition.] No further attempt was made, either to conquer or colonize this quarter of South America, till 1526, when Sebastian Cabot, grand pilot of Castile, who had been despatched by the emperor Charles V. to sail round the recently-discovered straits of Magellan, anchored in the river La Plata, then called the Rio de Solis, near the islands of San Gabriel. Having received flattering accounts of the riches and beauty of this country from some Spaniards who had served under De Solis, he immediately abandoned the original object of the expedition, and determined to proceed up the river. After an unsuccessful attempt of one of his captains to explore the river Uraguay, which he took for the true river of De Solis, he proceeded up the Parana, and built a small fort at the mouth of the Rio Tercero, or Carcarana, which he garrisoned with 60 soldiers, and called *Santa Espiritu.* He then ascended the river as high as the junction of the Paraguay and Parana. As the latter appeared to lead in a direction towards Brazil, he left it, and proceeded 34 leagues up the former river, where he first found an agricultural tribe, who knew how to defend, as well as to cultivate their lands. Having something to fight for, they fought so well, that, after having 25 of his men killed, and three taken prisoners, he could advance no further, and was obliged to return to his fort at the mouth of the Carcarana. Having, however, obtained some gold and silver from the Indians on the Parana, in exchange for some European trifles, and believing these to be the produce of the country, he changed the name of the river from Rio de Solis, to the *Rio de la Plata*, or 'River of Plate.' But he was wrong in giving the river this appellation, for the gold and silver which he obtained from the natives was not the produce of the country, but of Peru, into which the Indians of this quarter had made a plundering excursion in the reign of Huayna Capac, father of Atahualpa. These pieces of gold and silver were immediately sent byCabot, to his master the emperor Charles V., who was so delighted with this anticipation of future wealth, that he ordered a great armament to be immediately fitted out to complete the conquest of the country, and approved of Cabot's conduct in deviating from his original instructions.

Mendoza's Expedition.] Six years, however, elapsed, before it was ready for sea; and during that time, the fort of Santa Espiritu was destroyed, and the country entirely evacuated by Cabot and his Spanish companions, after they had remained in it above five years. The armament at length arrived in the mouth of the Plata, under the command of Mendoza, who having amassed great wealth at the sackage of Rome, still thirsted for more, and expected to obtain treasures equal to those of Solomon, in this quarter. This fleet carried out 72 horses, 2,500 Spaniards, and 150 Germans. Mendoza's first care was to select a proper place for a settlement; and having fixed upon a spot on the south side of the river, he there founded the city of Buenos Ayres, on the 2d of February, 1535. The natives, who at first supplied them with provisions, and seemed well disposed towards then , soon evinced a determined hostility to the settlers. They massacred every European whom they found straggling in the country, and even attacked the city, killed 30 Spaniards, and burnt the houses. Compelled by this opposition, and the ravages of disease and famine, which had shown themselves in the colony, to abandon the new settlement, Mendoza proceeded up the river. Having rebuilt Cabot's fort of Santa Espiritu, and named it Buena Esperanza, he despatched his lieutenant Ayolas up the river, with three barks well-armed; and ordered him, if he did not return within four months, to transmit an account of his operations and discoveries. Mendoza, soon after, fell dangerously ill; and naming Ayolas his successor in the government, embarked for Spain, but died on his voyage, after having expended 40,000 ducats in the expedition.

Ayolas's Government.] Ayolas pushed up the river, and treated amicably with all the natives whom he met with, till he came to the 25th degree of S. lat., where the Indians declined all kind of intercourse with the Spaniards, whereupon he landed his troops and attacked the natives, who were defeated with great slaughter. Here Ayolas built a small fort, which he named Assumption, from the day on which the battle was fought, being the 15th of August, 1538. Proceeding farther on his voyage, he landed at Puerto de Candelaria, in 21° 5′ S. lat.; where, being assured by the Guaranies, that there were several nations to the westward who possessed a great deal of gold and silver, he resolved to go in quest of them; and, leaving his brigantines under the command of Irala, with orders to wait four months till his return, he penetrated westward to the Chimenios and Carcarisos Indians, saw the richness of their country, but was unable to reduce them, and returned back to Candelaria, designing to return with a greater force, but, on his attempting to form a settlement among the Payagoes in the vicinity of Candelaria, he was surprised and slain with all his followers.

Irala's Government.] During these operations on the Upper Paraguay, the colonies on the La Plata were suffering all the horrors of famine. Their injudicious and tyrannical conduct towards the natives, aroused their indignation, and the Spaniards were expelled from the fort of Buena Esperanza. Three vessels, in the meantime, arrived from Spain with reinforcements, under Cabrera, who brought out a commission appointing Ayolas governor and captain general of the Rio de la Plata, with a carte blanche, empowering the settlers to elect a governor in case of the death of Ayolas. Irala was accordingly chosen governor, at Assumption, in August, 1538. At this meeting, it was resolved to abandon Buenos Ayres, and to concentrate all their strength at Assumption, which had already assumed the semblance of a city. But of 3000 Europeans who had entered the Plata, scarcely 600 now remained to compose the population of Assumption. These, however, were soon reinforced with 400 Spaniards under Cabeza de Vaca, who had been sent by the emperor to supersede Irala. Cabeza de Vaca's measures were wise and prudent; and by firmness, combined with mildness and decision, he repressed the insolence of those more fierce and savage tribes, who were always committing hostilities against the settlers. Farther discoveries were now prosecuted on the Paraguay. Cabeza de Vaca advanced towards the source of that stream, and anchored at the mouth of the marsh of Xarayes in 17° 58′ S. Proceeding westward, he fell in with several tribes, among whom he found a great deal of wrought gold and silver, but was unable to discover whence they got it; but the fatigues which the Spaniards endured in this long expedition, combined with want of provisions, and their usual concomitant sickness, raised a spirit of discontent among the adventurers. Their discontent was increased by the humane and upright conduct of Cabeza de Vaca towards the natives, and his determined firmness in resisting the avarice and tyranny of his men, who now became the partisans of Irala, and determined on his removal. He was accordingly seized on the 26th April, 1544, and sent prisoner to Spain, loaded with a multitude of grievous accusations, which were never proved. According to the usual delay of justice in that country, Cabeza de Vaca was detained about eight years at the court before his cause was tried; he was then acquitted of all the charges brought against him, but he was neither reinstated in his government, nor indemnified for the losses which he had sustained. Irala, who had now resumed the government, resolved to renew the attempt in which two of his predecessors had failed; and setting out with an armament of 7 brigantines, 200 cannon, 350 Spaniards, and 2000 subjugated Indians from Assumption, he arrived at Puerto de los Reyes; whence striking to the westward, after a long and painful march of nearly 400 leagues, they reached the banks of the Upper Pilcomayo, on the frontiers of Peru, the governor of which the licentiate Gasca, who had lately quashed the rebellion of the Pizarros, knowing that gold was the sole object of Irala's long march, sent him as much of that metal, unknown to his soldiers, as induced him to return. This expedition ascertained the nature of the country between Peru and Paraguay, and that it contained no mines of gold or silver, as was fondly expected by this band of adventurers. Irala was confirmed in his government in 1547; and the Indians' lands were divided among the conquerors, under the title of *encomiendas*. Assumption was made a bishopric; and Buenos Ayres was rebuilt. But the number of Indians already reduced or converted, was too small to supply all the Spaniards who thought proper to claim their services, and detachments were sent out to discover the most proper places for encomiendas, and to enslave the natives. With this view, Cividad Real was founded in the province of Guayra, where 40,000 Indians were trained to habits of servitude; and a few years after, Santa Cruz de la Sierra was established in Los Chiquitos, where 60,000 Indians were reduced to the same state. Both of these towns are now abandoned, and the new city of Santa Cruz de la Sierra, 140 miles to the N. of the old city, has been founded. Irala died in 1557, and was succeeded by his son-in-law Mendoza, who enjoyed the government scarcely a year when he died. After his death, the country was a scene of contention; one governor refused to acknowledge another, and the supreme government was frequently usurped by a rebellious chief; while the mother-country, from its distance and weakness, was hardly able to restrain the excesses and disputes of the ferocious settlers. The Indians groaned under that tyranny, and were fast hastening to a state of utter annihilation, had not the perseverance and address of the Jesuits, supported by the court of Madrid, interposed to avert the evil, and prevent Paraguay from being reduced to the state of an uninhabited desert.

Labours of the Jesuits.] It was in 1586 that these Jesuits first appeared in this country, though previously they had been many years employed in propagating Christianity in Brazil. Their labours were for a time merely confined to the conversion of natives, without attempting to form any permanent establishment. They visited many of the Indian towns and hamlets; and, following the wandering Guaranies through their woods, and into the recesses of their mountains, disposed many of them to receive the gospel, in such a dress as these fathers were pleased to exhibit it. Their equipment for these expeditions was strikingly picturesque and simple: a breviary, a cross 6 feet high, which served the itinerant for a staff, a flint and steel, and a few converts with axes, to cut through the woods, and to serve as guides, interpreters, and fellow-labourers. They had weapons against wild beasts, but no fire-arms; and even the Indian comfort of a hammock was thought an unnecessary luxury for the missionary. The province of Guayra, reaching from the eastern banks of the Parana to the then undefined borders of Brazil, was the spot first chosen by this fraternity as the scene of their labours. Among the Indians of the encomiendas, the Jesuits hoped for little success, as the conduct of their oppressors had exasperated them to such a degree as to prove an invincible obstacle in the way of converting them to a religion from the professors of which they were daily and constantly enduring the most flagrant injustice and cruelty. The Jesuits indeed pleaded the cause of the Indians from the pulpit to the utmost of their power, and with such zeal as made every white man in the colony their enemy. They set themselves earnestly to convert the independent natives, and to gather in their flock from the less frequented fields of the marsh and the wilderness; but, even here, the pernicious effects of the slave system followed them. The encomiendas were in their nature a growing evil; new grants of tribes were constantly issuing from every governor, as the Spanish population was always increasing, and that of the Indians melting away, while a regular slave-trade, of the true African stamp, was prosecuted in those remote and low regions which encomiendas could not reach, with all its usual horrors of war and kidnapping. Against these, in 1609, Father Torrez, the provincial of the Jesuits, obtained a royal edict from Madrid, expressly forbidding the Spaniards to make war against the Indians, unless in self-defence, and declaring that the king would have none but missionaries employed to reduce them.[c] Happy would it have been for Peru and Mexico, if such sentiments had actuated the Spanish government at the time of their discovery. To further these benevolent objects, the Jesuits were empowered by the same instrument to collect their converts into townships, to govern them independently of a town or fortress, to build churches, and, above all, in the king's name, to resist all persons who might attempt, under any pretext whatever, to subject these new Christians to the burden of personal service. They were only to acknowledge the sovereignty of the Spanish monarch, and to be considered as immediate vassals. This power was afterwards confirmed by Philip III. and his successors; and such was the zeal and labours of the Jesuits, that in 20 years they had established 21 reductions upon the Parana and Uraguay. The greatest enemies of the Jesuits were the slave-dealers, who used every scheme, and tried every means to thwart them in their benevolent designs; sometimes assuming the garb of volunteer interpreters, sometimes that of Jesuits themselves; and when the natives approached them as friends, they surprised and kidnapped them. All the other orders of the clergy, even the bishops, were their enemies to a man; and it required all the talent, and all the influence of this formidable fraternity, to support their cause at Madrid, against the united voice of the colonists of Paraguay. Among the Indians themselves they encountered great opposition. The sudden change from a roving to a settled life; from the alternations of hunting and repose, to a system of regular daily labour, was productive at first of a great mortality, and of still greater alarm among their new converts. Many grew weary of the restraints imposed upon them, and returned to their woods, or secretly practised the rites of their former heathenism; others suspected the missionaries of being actuated by base and selfish motives,—of designing to make slaves of them in a new and more effectual way, or, by collecting them into villages, as into nets, to give them in droves to the slave-dealers; some of the more ambitious Indians, observing and emulating the power which these fathers had acquired by their preaching, set up for themselves as prophets and antichrists, and attempted to blend their ancient superstitions with the new religion.[1] One circumstance, however, occurred, which, though it at first threatened the total ruin of the reductions, yet ultimately gave a still greater consistency to the fabric, and which is one of the most extraordinary events in the history of Brazil and Paraguay. The province of Guayra, which the Jesuits had made the scene of these operations in behalf of the natives, lay contiguous to the Portuguese colony of San Paulo. Properly speaking, however, no limit was established whatever between Paraguay and Brazil; but the Jesuits pushing eastward, and the Paulists westward, they encountered on a sort of debatable ground, to which either party might prefer a claim. The inhabitants of the captaincy of San Paulo were a mixed breed of Portuguese and Tupi Indians, or Mestizoes, but were at that time called Mamalucs. This race had all the good and bad qualities peculiar to back-settlers, and paid no more respect to the laws of the mother-country, than the pork-eaters and Coureurs des Bois, of Upper Canada, to the charters granted to their rivals in trade by his Britannic majesty. Unhappily for the Jesuits and their converts, the Paulists had always looked upon this country as belonging to Portugal, and more peculiarly as their own mining and slaving-ground. The numerous bodies of Indians whom the Jesuits had collected in their reductions were regarded in no other light than as a booty of the most valuable kind, and most easy acquisition. The circumstance also, of the Guarani Indians being hereditary enemies of the Tupi race—from which the Paulists were maternally descended—operated as an additional motive for the latter to seize and enslave the former. This devastating system commenced in 1630. Against these the Jesuits had no defence in the first instance, but the ineffectual one of prayers and tears, and a useless appeal to the symbols and sanctions of their religion. In nine months' space, 1,500 Christian Indians were driven for sale into Brazil, besides a far greater number who were butchered for attempting to resist, or who dropped down dead before their brutal drivers. Hopeless of protection, the Jesuits emigrated with their flocks beyond the Parana, chased by the Paulists, and exposed to all the evils of hasty flight, the attacks of wild beasts, famine, and pestilence. The province of Guayra, containing 13 populous reductions, was abandoned; and in two years' time, it was computed that above 60,000 converted Indians were carried off into slavery by the Paulists. These disasters were beheld with indifference, if not with complacence, by the colonists; viewing the settlements of the Jesuits as encroachments on their property, they rejected their earnest and repeated entreaties for aid; but they soon felt the effects of their imprudent selfishness. The Paulists, disappointed by the removal of the missions, advanced with the same hostile spirit towards the encomiendas, wasting the lands, and carrying off the Indians; and the cities of Cividad Real and Villa Real were razed to the ground. A deputation of Jesuits was now despatched to Europe, who advocated the cause of their American brethren with such a warmth of colouring and persevering address, as procured for them, from the court of Spain, in 1639, a decree to embody and arm their Indian adherents in the European manner. This important privilege soon restored peace and stability to the reductions. The converts, who outnumbered their persecutors, being on a level with them in arms, and led on by Europeans, soon learned to resist them; and from this time the reductions became independent of the local governments. They even rendered essential assistance to the Spanish governors in cases of emergency; and in the course of a long and furious quarrel between the governor and bishop of Paraguay, the Jesuits, who espoused the cause of the former, brought a sufficient army into the field to counterbalance the whole forces of the Spanish colonists, who were leagued almost to a man in behalf of the prelate.[2]

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[1] Three instances occurred in which individuals assumed the name of the Almighty; and, on their own authority, threatened the converts with fire from heaven, if they did not quit their new guides. One of them applied the doctrine of the Trinity to himself and two associates, of whom he spake as his emanations, and consubstantial with him. Some of the ancient conjurers, finding their craft in danger, invented new and more interesting ceremonies,—sacrifices on the tops of mountains, with perpetual fire,—oracles, relics, female votaries. Others, more bold and sanguinary, had recourse to open war; and one of the reductions was made the scene of a massacre, and of the martyrdom of a Jesuit.

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[2] It may be interesting here to describe the plan pursued by the Jesuits in evangelizing the South Americans:—Each establishment or reduction, was a single large plantation, cultivated by all the male converts, divided into gangs according to their age and strength, under the Jesuit rector of the place, who was assisted by overseers taken from among the Indians themselves. Women and girls were employed in lighter labours, and in different manufactures suited to their sex. The cleverest lads were brought up to handicraft trades, for many of which, where imitation only was required, the Guaranies had a natural and astonishing aptitude. The unmarried persons were regularly mustered to their labours every morning by the sound of musical instruments. With married persons, and those children who were too young to be separated from their parents, a different plan was pursued; each father of a family, instead of his former allowance of food, had a certain portion of land, which he tilled on his own account on those days when the order did not require his services: what leisure was allowed for this, does not appear. The whole system was kind and indulgent; and in ordinary cases, the produce of these patches of ground was sufficient for maintenance. If it failed, the deficiency was supplied; and an allowance of coarse clothing was annually furnished to each family. If the Indian, from age or infirmity, became incapable of labouring, his ground was taken from him, and he received food instead. A separate dwelling was allotted to each family,—a single apartment of clay, roofed with shingles. A reduction usually contained 800 or 1000 of these huts, regularly arranged, with a square in the centre, where stood the school, the work-house, the rector's house, and the church, of the same materials as the other buildings. The sick had an hospital; and widows and helpless persons an alms-house. The children were trained in early habits of industry and obedience; and were fully imbued with a reverence for that system of saint and image worship, which their preceptors thought fit to dignify with the name of Christianity. Few were taught to read; still fewer were made acquainted with the Spanish language; and in no instance did they admit the Indians into their society, or into the Christian ministry. In the management both of children and adults, the rod and the lash are said to have been liberally employed. Of the moral and religious character of the Indians, their preceptors have drawn a most flattering picture. Broken in from infancy to a discipline the most minute, inquisitive, and incessant, of which there is any record in history, and removed from most of the temptations which visit civilized or uncivilized man, the boys and girls separated from infancy with monastic care, and with equal care coupled together in marriage when 15 or 16 years old, are said to have retained through life the amiable qualities of childhood; but they retained its weakness also. Years passed away, (according to the Jesuits,) without the confessions of a Guarani revealing any crime which required absolution; but so feeble were their minds, and so scrupulous were their consciences, that the patience of the spiritual guide was wearied with a long detail of trifles; and a single Indian occupied more time in the confessional than half a dozen Europeans. Their diversions were all prescribed by their spiritual preceptors, who unhappily forgot that amusement when prescribed becomes itself a task. The young labourers were taught to weave garlands for the saints, to sing psalms, to dance figure-dances, to act plays taken from scripture, and to walk to church in procession. Football was the only game which deserved the name; and even this, when exercised under clerical inspection, was not likely to be very animated. One great defect of the system lay in the constant system of pupilage and seclusion under which they were kept. This plan, at first undoubtedly necessary, was perpetuated; and the Indians were secluded from all intercourse with the Spaniards or Portuguese, on the ground of contamination from bad example; but virtue which cannot be trusted to the open air, is feeble virtue; and if the Indians had been taught to respect themselves, and to take care of their own spiritual and temporal interests, neither the one nor the other would have been in much danger from a race of men whom they never loved, and whom they had no occasion to fear. Equality of condition among their converts, was the principal aim of their teachers; and if an Indian had been permitted to trade in Peru, or to make a voyage to Europe, he would have been so much richer and wiser than the rest, as to have been little disposed to pay much deference to his spiritual guide. The utmost honours to which the Jesuits advanced their subjects, consisted in being dressed in laced hats and silken clothes, taken from the common stock on certain holidays, and in being allowed to play for a few hours at being men and Spaniards; but they were again to put off their finery, and go barefooted like the rest of their fellow-pupils. The consequence of such a system of pupilage, equality, and seclusion, were these: having found the Indian less than a child, a child they made him,—but he was prevented from ever becoming more, and the imbecility of his character was pleaded as an excuse for the deficiency of the system and the backwardness of the instructors in not improving him farther. Such is an outline of the Jesuits' system of instructing the uncultivated sons of South America. By it much real good was done, and the converted Guarani was rendered a much wiser, a much better, and a much happier being, than his brother savages; but much more real benefit would have resulted, had the Indians, when properly instructed, been left to act for

Besides their settlements on the Parana and Uraguay, the Jesuits had established reductions among the Chiquitos and Mojos; and several also of the Pampas Indians had been united in a reduction called *Conception*, a little to the S.E. of Buenos Ayres. The number and strength of these reductions awakened the jealousy of the Spanish colonists, who never loved the Jesuits, and who were exasperated at the subduction of so many Indian tribes, whom they asserted to be their property by right of conquest, and to have been divided into encomiendas. Repeated attempts were made to ruin the Jesuits at the court of Madrid. They were loaded with accusations and aspersions by the colonists, and were solemnly charged with alienating the Indians from the crown of Spain. But many of these imputations having been found to be either groundless or exaggerated, they were confirmed in all their rights and privileges by a royal decree in 1745.

British Expedition.] Nothing further of importance sufficient to merit attention occurs in the history of Buenos Ayres, until 1806, when a British squadron unexpectedly appeared in the mouth of the Plata River, under the command of Sir Home Popham, with a body of British troops on board under the command of general Beresford. This force sailed up the river, and the squadron anchored within 12 miles of Buenos Ayres, where the troops landed with little opposition, and marched immediately to the city, which surrendered after a slight resistance. The smallness of the capturing force was however soon observed by the Spaniards, who recovering from their panic, determined to rid themselves of their invaders by becoming assailants in their turn, the British, attacked on all sides by overwhelming numbers, were necessitated to surrender themselves prisoners of war on the 16th of August, after having possessed the place about six weeks. In the meantime, Sir Home Popham, reinforced with some additional troops from the Cape of Good Hope, seized Maldonado, after having made an abortive attempt on Monte Video; and being afterwards still farther reinforced by a body of troops under Sir Samuel Auchmuty, renewed the attempt on Monte Video, which was attacked and taken by storm on the 3d February, 1807. Here the British troops waited till they should be enabled, by additional reinforcements, to re-commence operations against Buenos Ayres. These having at length arrived under general Whitelocke, and a farther reinforcement having been received under general Crawford, the troops, 8000 strong, re-advanced to the attack of Buenos Ayres. Their plan of attack was to force their way into the town; the inhabitants, however, had made every necessary preparation for a vigorous defence; the streets were intersected with deep ditches, secured by cannon, —the houses were completely barricadoed,—and the windows and housetops were thickly planted with armed men. No sooner, therefore, had the British troops entered the place, than they were assailed on every quarter by a superior and commanding fire of grape-shot and musquetry, under which they perished in great numbers, without occasioning any corresponding loss to the enemy. The whole male population of the city, was in fact actively employed in its defence. In this situation, nothing but obvious insanity could prompt them to persist in the attack, after having lost nearly one-third of their whole force, besides a number of prisoners who were in the power of an exasperated populace. An armistice was

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themselves, and been gradually introduced into the society and commerce of neighbouring Europeans. Long ere this, they might have ranked among civilized nations, and have been in their turn the instruments of dispensing spiritual and temporal blessings among their kindred tribes of South America.

therefore agreed to next day, which issued in a convention, by which it was engaged that the British should evacuate the Rio de la Plata, in two months, and that all the prisoners taken on both sides should be restored.

Revolution.] The resentment of the people of Buenos Ayres was, however, soon directed towards another object. Spain having been over-run, in 1808, by the armies of Napoleon Buonaparte, the colonists were alarmed at the prospect of being brought under the same yoke as the mother-country. But having at the same time suffered most grievously under the equally impolitic and unjust restrictions imposed on their trade, they determined to improve the opportunity afforded by the inability of the mother-country to enforce her authority, and to assert their independence. In the city of Buenos Ayres, a revolution was effected without a struggle; the viceroy was deposed and sent home to Spain, and a provisionary government was appointed. But in the other parts of the viceroyalty, a formidable opposition was begun. Monte Video recognised the regency of Cadiz; and at Cordova, in the interior, a counter-revolution was begun, headed by Liniers, and some of the principal personages of the place. To dispel this rising cloud, a force was promptly raised, and despatched by the provisional government, at the approach of which, Liniers with his associates fled towards Peru, across the plains of Tucuman, where he was overtaken and barbarously murdered, with three of his principal coadjutors. The opposition of Monte Video was more powerful and of longer duration. It was headed by Elio, who had been sent out as viceroy of the province; and who finding that the provisional junta determined not to submit to his authority, declared war against them. An armistice was at length concluded, in 1811. In 1812, however, hostilities were re-commenced, and the flotilla of the Monte Videans being completely defeated and captured by admiral Brown, Monte Video was again besieged both by land and water, and compelled to surrender to the revolutionists upon capitulation; but the garrison was not permitted to return to Spain, on the ground that the royalists had repeatedly violated terms of capitulation with the troops of the junta. The independents acted with considerable vigour; a force was gradually collected and trained to active service, both for the purposes of defence, and of assisting their Chilesian neighbours, who had embarked in the same cause with themselves. Two armies successively sent by the viceroy of Lima to reduce the independents of Chili, were totally defeated by the troops of Buenos Ayres, and the forces of the Chilese patriots, in April 1818.

The Spaniards have made several attempts since to reduce the patriots of Buenos Ayres, but with no better success. In July 1821, a great battle was fought between the parties, in which the Spaniards were totally defeated, with the loss of Ramirez their general, who was slain, and his head sent to Rodriguez the supreme director of Buenos Ayres. Discomfiture and disgrace latterly attended the Spaniards generally throughout all the provinces; and the cause of independence has ultimately triumphed here as elsewhere throughout the regenerated continent of South America. The tranquillity, however, of the United Provinces has been much disturbed by disputes with the Monte Videans, Paraguay, and Brazil, which were at last settled by treaty of 27th August, 1828.

CHAP. II.—PHYSICAL FEATURES.

General Aspect.] This country resembles an extensive amphitheatre, bounded laterally by the Andes and the Brazilian mountains, and on the N. by a tract of mountains, denominated those of *Chiquitos*, which running N.W. from the Andes of La Paz and Potosi, and crossing the Parana, are connected with the Brazilian chain,—leaving towards the S.E. the immense opening of the Rio de la Plata, like a wide and magnificent portal, proportioned to the grandeur, importance, and extent of the region to which it gives access. Within these limits—some scattered and intermediate ridges excepted—the country is extremely level, the hills generally not exceeding 540 feet of elevation above their bases; and the whole being a vast extended plain, covered with lakes and innumerable rivers, many of which, though unequal to some of the largest in Europe, flow unregarded and nameless, and are viewed merely as tributary streams. Few of them, however, reach the sea, being either lost in the lakes, or stopped in the level plains, where they are soon absorbed or insensibly evaporated.

RIVERS.] We have already described the *Paraguay* and *Parana* in our introductory article on South America in general.

The Iguazu.] The Iguazu, which flows gently through forests of gigantic trees, preserving in its course a uniform breadth of a mile, runs S. for about three miles before it reaches its great fall,—its contracted width being 2,892 feet, its depth from 12 to 20 feet, and its banks a little elevated. As it approaches the descent—which is in a deep bend of the river, not far above its junction with the Parana—several small islands, and many reefs and detached rocks on the left side, confine its channel and turn it a little to the W. Not far below these, the waters of the middle channel begin to descend. The shallower branch runs along the eastern bank amidst reefs and rocks, falling sometimes in cataracts, sometimes in sheets, till being confined on that side by the shore, it makes its last descent from a small projection 1,680 feet from the point where it began; the waters fall first upon a shelf of rock, jutting about 20 feet out, and then precipitate themselves into the great basin, which is 168 feet below the upper level. The western branch seems to rest after its broken course in a large bay formed by the projecting point of an island, and then pours itself by a double cataract into the great basin. The breadth of this western branch is 198 feet; and from the point where the descent begins on this side, to its last fall, is 3,936 feet. On the fall, the water rises during the floods, 5 feet, and below it, 25 feet. The breadth of the channel opposite the island is 240 feet, and 390 feet a league below the fall; to which distance the waters still continue in a state of constant agitation. Enormous trunks of trees are seen floating down, whirled to the edge of the basin, or entangled among the reefs and broken rocks, or caught by the numerous islets which lie amidst this stream; and some in the very fall itself, dividing and subdividing its waters into an infinity of channels. From this basin, the collected stream flows with irresistible violence through rocks from 80 to 100 feet high, of hard stone, in some places brown, in others of a deep red colour inclining to purple. No fish, it is said, can endure this dreadful place. A thick vapour rises 60 feet in height in a clear day, 120 feet at morning, when the sky is overcast; this cloud is visible from the Parana, and the sound of the fall is distinctly heard there,—a distance of 12 miles in a direct line. The exact situation of these falls is in S. lat.

25° 42′ 26″, long. 3° 47′ 50″ E. of Buenos Ayres. From its source to its junction with the Iguazu—a course of more than 1160 miles in direct distance—the Parana is a Brazilian river,—the remainder of its course is within the Spanish boundaries.

The Uraguay.] The Uraguay has its rise in the Brazilian mountains in the province of Rio Grande; and is composed of two main streams, the one rising in 28° S. lat. and 50° W. long., and the other in 26° S. lat. and 51° W. long. Its course is first to the W.; and it receives so many large torrents from the mountains, that at 25 leagues from its source, it is already a large stream. The great declivity of its descent, and the quick accumulation of the mountain-streams, give it an extremely rapid course; and, when, at 690 miles from its discharge into the Plata, it has emerged from the mountains, its bed in the plains is so wide, that a ten-oared boat requires half an hour to cross it, though the current is there by no means strong. After leaving the hilly country, it waters a bare and desert region, when turning to the S. and continually receiving in its progress fresh accessions of water from the Brazilian mountains, it terminates in the Plata, in S. lat. 34°, after passing through a country eminently fertile and romantic. This stream is broader than its two rivals, the Paraguay and the Parana, and is a rocky and turbulent river. It is always navigable for 200 miles up; beyond that, from the great number of rapids and cataracts, it is unnavigable for large vessels, and can only be ascended in canoes, flat bottomed boats, and such other craft as are suited for river navigation. From its junction with the *Pepuri*, the Uraguay is a Spanish-American river, a direct distance of 560 British miles up from the mouth; the remainder of its course, amounting to 260 miles more in direct distance, belongs to the Brazilian territory.

The Pilcomayo.] The sources of the Pilcomayo are found in the eastern declivity of the Peruvian Andes. The main stream is composed of the Cachimayo, which rises in the district of Amparaes; and after passing the town of that name, intersecting Potosi, and running for a considerable distance N.W. parallel with the upper Madeira—there called the river of Cochabamba, and from which it is only parted by an intervening ridge—it receives the *Pilcomayo* in the district of Santa Cruz de la Sierra, the *Paspaya*, the *Cotagayta*, and the *San Juan*, which last is the most distant source of this stream, being 1000 miles removed from its entrance into the Paraguay. It is the most important river which joins it from the W. forming a water-communication of nearly 900 miles with the Bolivian province of Los Charcas, and the mines of Potosi. With the exception of several rapids the Pilcomayo is navigable almost to its source, and these rapids are easily passed; but the navigation is liable to be interrupted from dry seasons, and in some places the river is too shallow for small craft. In 1740, the waters of the Cachimayo failed to such a degree, that the working of the mines of Potosi was suspended, and the country suffered severely. When the Pilcomayo leaves the mountains and enters on the plains, it begins to swarm with alligators, which are here very ferocious.

The Rio Vermeyo.] The Rio Vermeyo, or 'Vermillion river,' falls into the Paraguay from the N.W., a little above its confluence with the Parana. It is composed of the three streams of the *Rio Tarija*, the *Rio Grande de Jujuy*, and the *Yavilaquiaco*, its whole course being 700 British miles, exclusive of windings. Its current is gentle; and the ascent by regular southern breezes that blow every morning, is nearly as easy as the descent. This river was navigated for the first time in 1790 by Don

Francisco Cornyo, a native of Salta. His design was to ascertain whether it was navigable from the province of Tucuman to its influx into the Paraguay. He commenced his expedition on the 27th June, 1790, from a small bay at its confluence with the Ceuta, embarking on board a kind of xebeck with a crew of 20 hands, partly soldiers and partly seamen, and was followed by two canoes. After a navigation of 44 days he reached the spot where it enters the Paraguay, 24 leagues N. of Corientes, having sailed 382 leagues without encountering the smallest obstacle. When a more perfect practical knowledge of the navigation of this river shall be obtained, nearly one half the time spent in this first attempt will be saved; and even in the meantime, this discovery is of great advantage to the commercial intercourse of Paraguay with the provinces of Tucuman and Peru, the productions of which have hitherto been carried on the backs of mules at a great waste of time, expense, and animal life.

The *Rio Salado* falls into the Rio Parana, from the N.W. in S. lat. 31° 40′ 29″, after a comparative course of 700 British miles. Its course is so rapid as to render its navigation dangerous. The *Rio Carcarana*, after a course of 280 miles from the N.W., enters the Parana in S. lat. 33°.

The Rio de la Plata.] After the junction of the *Paraguay* and the *Parana*, the united stream is denominated the *Parana;* and after the junction of the *Uraguay*, it receives the name of the *Rio de la Plata*, or 'River of Silver.' This last appellation was given to it from Cabot, its discoverer, after having defeated a considerable number of Indians on its banks, and obtained in consequence a considerable booty of the precious metals. The term was also applied by him to the whole course of the Paraguay from its head to its mouth, while the Parana and Uraguay were considered as mere tributaries. But later and more correct observation has corrected this error; and the term is now restricted to the gulf, or opening, extending from the confluence of the Parana and Uraguay to capes St Mary and Antonia, on the opposite sides of the entrance of the gulf, or opening, where the water still retains its freshness, and the tide is very imperceptibly felt. From Corientes, where the Parana strictly speaking receives the Paraguay, to the mouth, at Monte Video, is 700 miles direct distance, and to Cape St Mary, 770 miles. The river is navigable as far as the city of Assumption, on the Paraguay, (nearly 1000 miles by the course of the stream from Cape St Mary, and 1200 miles including the windings), for large loaded boats, and even ships from Cadiz have sometimes ascended as high. The comparative course of this noble stream, from the remotest source of the Parana, is at least 2,100 British miles to Monte Video, and 2,170 miles to Cape St Mary. Between this cape and that of Antonia, the estuary of the La Plata is 150 miles broad,—a breadth unrivalled but by that of the Maranon, which latter, however, is studded by islands and intricate channels, while the opening of the La Plata is almost one uninterrupted sheet of fresh water, though much shallower than the mouths of the Maranon. Between Monte Video and Punta de Piedra—which some consider its proper limits—the river is 80 miles broad; and at Buenos Ayres, more than 200 miles up the river, it is still 30 miles broad, with low banks, so that the eye cannot reach from one side to the other. The depth of the channel up to Buenos Ayres, is generally from 18 to 20 fathoms; but it is very difficult to be traced, as the river is full of shoals, islets, and rocks, so that ships are obliged to keep constant soundings all the way, and come to anchor every night, and none but a pilot, who from long experience is perfectly acquainted with the line of channel, is qualified for conducting vessels up the river. The navigation is also rendered more dangerous by the impetuous torrents of wind which sweep at intervals over the vast Pampas or plains—hence called *Pamperos*—which come down the opening of the La Plata, with irresistible and inconceivable fury. But the danger does not end here. There is no port on the coast of the river, where ships of any burden can enter, nearer than 7 leagues from Buenos Ayres, in the port of Barragan; and the anchorage-ground, opposite the city, is 3 leagues from the shore. All the goods must consequently be landed in lighters, which enter a small creek at the mouth of the Rio Chuelo, about a quarter of a league from the town, to which they are conveyed in carts; and the vessels generally fall down to Barragan bay, to refit and wait for their cargoes. To remedy these evils, the court of Spain ordered a settlement to be made at Monte Video, in 1726, where nature has formed one of the finest harbours in the world. Here the merchandise imported from Europe to Buenos Ayres is unshipped and carried in lighters up the river.

The other rivers of this country are not of importance sufficient to merit a description, most of them being lost in small salt lakes, or evaporated in the level plains by the solar rays, or absorbed in the sands. Of this description is the river of *Tucuman*, or *St Jago de Estero*, which, after a comparative course of 350 British miles to the S.E. through the Pampas, is lost in the salt lakes of Porongos. The rivers which rise in the N.W. parts generally run to the N. and N.E., and form the prodigious streams of the *Beni* and *Madeira*, tributaries of the Maranon.

LAKES.] The lakes in this country are of a quite different description from the lake of Titicaca, already described in our account of Bolivia, which is formed by the collected waters of the mountainous region that embosoms it, while these, on the contrary, are situated in the extensive flats with which this country abounds. The uniform levelness of this tract is so great, that it has been calculated by barometrical observation, that the great river Paraguay, in its progress to the south, does not fall above one foot in perpendicular height, between the parallels of 18° and 22° S. lat. or 280 miles direct distance, but much more by the course of the stream. Even when the winds from the S.E. occasion the rivers of Buenos Ayres to rise seven feet above their usual level, this rise is observed in the Parana, at the distance of 60 leagues. In consequence of this flatness of the soil, the rains which fall on the Andes are stopped where they descend into the plains, and are insensibly evaporated; so that a number of rivulets which, if collected on a different configuration of surface, would form a large stream, are thus stopped and annihilated. This physical defect cannot be supplied by any artificial means; for the same cause which prevents the superfluous moisture from finding its way to the sea, would equally prevent its conveyance by canals. In Buenos Ayres, and other towns situated on the banks of rivers, it is always found necessary to use a pump, in order to raise the water to the level of the town. This very circumstance, which produces the effects above described, is equally favourable to the formation of lakes. As the superfluous waters caused by the periodical rains, have no outlet, from the defect of descent, and cannot be absorbed by the soil, they are necessarily collected in the flat parts of the country, where they spread to a great extent, covering an immense space, but of no great depth any where.

Lake of Xarayes.] Most of the lakes are of this description; and among these is the celebrated lake of Xarayes, which is nothing else than the superfluous waters of the Paraguay, when swelled by the tropical rains, spread over an immense flat, and partly evaporated, and partly carried off by the river when it begins to retire within its banks. This marsh was formerly supposed to be its source; and many fables were circulated concerning it, as having a beautiful island in its centre; which, from the salubrity of its atmosphere, its perennial verdure, and exuberant fertility, was called 'the Island of Paradise,' and was said to be inhabited by the Orejones, a Peruvian tribe, which had taken refuge here at the time of the conquest. The number of crocodiles in this marsh is immense; and in the vicinity are found tigers, leopards, stags, and monkeys of various kinds; the country also swarms with ants, musquitoes, and innumerable noxious insects. During the inundation, the Portuguese (from their settlements on the Cuyaba) cross it in canoes and small barks. When the inundation has ceased, the whole plain is completely dry, and covered with weeds and other plants. Of the same kind are the lakes of *Aguasacaty* in S. lat. 25°, and *Numbucu*, in 27° S. lat., and in general all those to the E. of the Paraguay.

Lake of Iberi.] The lake of Iberi, or Caracares, lies between the Uraguay and the Parana. For 30 leagues, the northern boundary of this lake runs parallel with the former river, and extends as far to the south. From its S. extremity the river Mirinay runs into the Uraguay; and from its W. and S.W. sides, three other large streams issue, namely, the *Santa Lucia*, *Corientes*, and *Batiles*, and fall into the Parana. None of these streams are fordable. Its greatest breadth is 46 miles. This lake neither receives rivers, brooks, nor springs, but is entirely nourished by the simple filtration of the waters of the Parana,—a phenomenon of which there is not another known instance in the world. This filtration alone supplies not only the four great rivers issuing from it, but also the vast quantity carried off by evaporation from a surface of 8,000 square miles; which, according to Halley's calculation, must be equal to 70,000 tons daily, allowing the mean temperature to be the same as that of England. This watery expanse, however, is generally very shallow, and filled with aquatic plants, so that its interior is completely inaccessible. The islands with which it is studded are well-stocked with deer and other game: flocks of wild fowl are always skimming on its surface; its fish are numerous, and very sweet and fresh, and many flourishing settlements are made on its shores. This lake overflows twice-a-year. During the intervals between the inundations, it has the appearance of an immense swamp, with 12 lakes dispersed at different distances.

There are other lakes, which stagnate in extensive flats, and being shallow, cover a great surface of ground; and which consequently diminish the quantity of arable land. In the southern parts of this viceroyalty, and E. of the Plata, a chain of salt lakes extends E. from the Andes to this river. One of these lakes, in particular, 360 miles S.W. of Buenos Ayres, is remarkably salt. It is about 18 miles in circuit; and the salt found at the bottom is so hard and thick, that it is difficult to break it with iron tools. About 300 carts are annually loaded with it, and carried to Buenos Ayres; and what is very remarkable in this chain is, that a few of the lakes are fresh, though during the rains they are so swelled as to communicate frequently with those that are salt. All the springs throughout the greater part of the flat country W. of the Parana and Paraguay, are more or less salt, and few of the rivers can be drunk till they enter the Parana. The soil of this region, extending about 700 miles in length, and 190 miles in breadth, is saturated with fossil salt. All the rivers that flow down the eastern declivities of the Andes, yield excellent water till they enter this saline tract; even the great rivers, as the Pilcomayo and the Vermeyo, though their current is never stopped, are alway saltish when their waters are low. Great quantities of this fossil salt are refined for consumption; but it is most abundant between Santa Fé and Cordova, and in the vicinity of St Jago de Estero the whole ground is covered with a saline incrustation, even to the foot of the Andes. Natural saltpetre is also collected in this part of the country in great plenty; and after a shower of rain, the ground is white with it, and chills the feet excessively. The salt of these lakes is preferred to that of Europe, by the natives, as being not so bitter in their apprehension as the European salt. The very cattle in this part of the country are remarkably fond of salt, and cannot subsist without an allowance of it as part of their necessary food; they eat with great avidity a species of salted clay, which they find in the ditches; and when that fails—as has been sometimes the case—they perish to a certainty in 4 months' time.

Mountains.] The western parts of this country, particularly the districts added from Peru, and now forming Bolivia, are generally mountainous, comprehending within their limits some of the loftiest ridges of the Andes. From the great chain of Andes, branches diverge in different places, extending far into the interior. Of these, the mountains of *Cordova Achala*, in the province of Tucuman, and those of the still more western province of *Cuyo*, form secondary ridges; and another ridge of the same kind branches off in the latitude of the great river Colorado, or Desaguadero, which, under the Indian appellation of *Casuhati*, runs nearly across to the Atlantic. The southern mountains are covered with thick impenetrable woods, and are little known. The Brazilian range on the E. is also of secondary elevation, generally covered with thick forests, interspersed with extensive tracts wholly destitute of vegetation. This extensive chain is connected with the Andes on the W. and N.W., by an intermediate range, called the mountains of *Chiquitos*. This range stretches through the Bolivian districts of La Paz and Potosi, the provinces of the Mojos, the Chiquitos, and Chaco, towards the interior Brazilian provinces of Matto-Grosso and Minas-Geraes, till it strikes the Brazilian frontier in the province of St Paul. This range is semicircular, having a number of secondary ridges projecting from it to the north and south. It is this intermediate range which separates the tributary streams of the Maranon from those of the Plata. With the elevation, breadth, and geological structure of this connecting range, we are utterly unacquainted, as the Portuguese, in whose dominions it principally lies, have contributed little or nothing to geographical science, notwithstanding their settlements in America and Africa. The road to Potosi from Buenos Ayres, which is 1,617 geographical, or 1,860 British miles, and from Potosi to Lima, 1,215 geographical, or 1,402 British miles more, or a total of 3,262 British miles N.W., passes over the highest ridge of the Andes. The traveller who attempts this arduous journey (according to Helms, who travelled it himself) must expect to encounter every degree and sort of privation and hardship, not only from the extremes of heat and cold, to which he must be exposed, but also from the rugged and impracticable nature of the country through which he has to pass. This passage can only be attempted during summer; and as then the mountain-snows commence melting, the streams which rush down the declivities of the Andes are swelled to torrents at once stupendous, and often irresistible. This takes place frequently so suddenly, that the unfortunate traveller has no time to escape the fury of the torrent, but is swept down with his mule, and perishes miserably admidst the precipices and dark abysses penetrated by the foaming waters in their rapid course. To facilitate the passage across these streams, wooden bridges are frequently constructed, sufficiently broad to admit the passage of a traveller on horseback; but when the river is too wide for the constructing such bridges, others are thrown over of a slighter construction, called *bijucos* or cane-bridges, which are only used by men, the mules being taught to swim across. But where the rapidity of the torrent, and the large stones which are continually rolled down, render it impracticable for mules, a contrivance is adopted for passing them safely across, called a *tarabita*. This consists of two ropes made of cane, or of thongs of an ox-hide twisted together to a proper thickness. These being extended across the stream, are fastened on each bank to strong posts; and the animal, being slung in a sort of leathern hammock depending from the ropes, and properly secured by girths round the belly, neck, and legs, is drawn to the opposite shore by ropes fastened to the hammock and extending to both sides of the river. This road is more frequented than that across the Andes to Chili; and regular stages were established on it in 1748, and relays of horses and carriages provided for the accommodation of travellers. It is likewise free from all danger of attack from predatory Indian tribes; and it is only in the first stages that it is thought necessary to station troops for the security of travellers.

The Pampas.] This country is noted for the vast plains, called *pampas.* From the banks of the Paraguay immense plains extend westward to the frontiers of Los Charcas, and northward to the mountains of Chiquitos. These plains are generally elevated and dry, though traversed by numerous rivers. They are skirted by extensive and ancient forests, which afford shelter to the wild animals of the country, and are inhabited by Guachos and other scattered tribes of Indians, who roam over their deserts in a state of savage independence. Another immense plain, 300 miles in length from E. to W., and 1,500 miles from N. to S., as far as the interior of Patagonia, and 900 miles of which belong to this viceroyalty, occupies the central and south-western parts. These plains present one uniform expanse of waving grass, uninterrupted by either wood or eminence. They commence at 73 geographical miles distance from Buenos Ayres, to the W.; and are in some places parched and barren, in others, fertile, covered with very high grass, destitute of trees, and mostly uninhabited. They are the abode of innumerable herds of wild oxen, horses, ostriches, and other animals, which, under the shade of the grass, find protection from the intolerable heat of the sun; and towards the Chilesian frontier, guanucas and vacunas are found in considerable numbers. Over these pampas lies the only road from Buenos Ayres to Chili. This route is generally performed by the Spaniards in companies, as the plains are infested with hostile bands of roving Indians, who go there for the double purpose of plunder and hunting wild horses. Through this extensive flat, there are, as in the Russian are Tartarian steppes, no landmarks by which the road can be discovered, for many hundred miles, so that they are obliged to pursue their route by the compass. They generally travel in covered caravans drawn by oxen, and are accompanied with baggage-horses and mules. Their caravans are made almost as commodious as a house. They have doors to shut, and windows on each side; and the floor is covered with a mattress, on which the passengers sleep for the greatest part of the journey. Travellers, however, are sometimes reduced to great distress, both from the intense heats which prevail during the middle of the day, and the scarcity of water, which is often not to be met with for several days' journey. Though these plains are watered by the large river Saladillo, which, after a course of nearly 600 miles S. E., enters the Plata, 60 miles south of Buenos Ayres, and also by the Hueyque, Leuvu, and the Desaguadero, yet no intervening streams of any consequence exist, and no water is to be found but what is collected in standing pools when the rains fall. When these rains fall, they descend in such excessive quantities as to penetrate the caravans; and though relieved, in consequence, from their most urgent necessities, yet both the travellers and their baggage are completely drenched, and suffer great inconveniency.

CHAP. III.—CLIMATE, SOIL, AND PRODUCE.

A COUNTRY so extensive as Buenos Ayres, must possess a great variety both of climate and soil. While, on the frozen summits of the Andes, the cold is intolerable even in summer, in the plains the heats of summer are extremely oppressive. At Assumption, the capital of the province of Paraguay, in S. lat. 25° 16′ 40″, Fahrenheit's thermometer, (according to Azara,) in ordinary summer weather, stands at 85° in the shade; and in the hottest summer weather at 100°. At Buenos Ayres, in S. lat. 34° 36′ 28″, water generally freezes slightly in the course of the winter; but if this happens frequently, the winter is termed severe. In winter it was generally reckoned cold, when the thermometer fell to 45°, but in some seasons it has fallen as low as 30°. A N. E. and S. E. wind always cools the air; while a N. wind invariably brings heat. E. and N. winds are most common. The S. W. wind prevails only about one month during the year. In the northern parts of the country, and in the interior, the W. wind is scarcely known, and seldom lasts three hours together. At Buenos Ayres, and on the coast, the winds are more violent; the westerly wind is most common, and, sweeping down the immense plains of the interior, rushes over upon the coast with inconceivable violence. The S.E. wind is generally followed by rains in winter, and by dry weather in summer. In the spring and summer these winds are often very violent, raising clouds of dust which obscure the sun, and which cause great inconvenience to the inhabitants, by destroying their clothes, and penetrating into their houses and apartments. The atmosphere is very humid, and the apartments which have a southern exposure have always wet floors. The walls, also, which have the same exposure, are covered with moss, and the roofs with a bushy kind of grass, growing nearly to three feet high, and which must be cleared away every two or three years, to prevent the moisture, of which it serves as the depository, from penetrating the houses. During summer, rains are frequent, and are commonly accompanied by the most dreadful thunder and lightning. The former is incessant, and the flashes of the latter succeed each other so rapidly, that at times the whole sky seems to be illuminated with one flame. These thunder-storms are frequently attended with the most fatal consequences. In one of them, which happened in 1793, the lightning struck the city of Buenos Ayres in 37 different places, and killed 19 persons. In May, 1799, a violent storm overturned one half of the town of Atira, in Paraguay, and killed 36 persons. It is observed by Azara, that the humidity of the atmosphere, and the violence of the winds, gradually increase as we descend the river from Assumption to Buenos Ayres; and that the thunder-storms decrease in violence as we proceed to the south. Fogs, snow, and hail, are seldom seen, except on the summits of the mountains. The salubrity of the climate is, notwithstanding, surpassed by that of no other country, as far as is known; even in the vicinity of marshes and inundated lands, so frequent in this tract, the inhabitants are never affected in the smallest degree. It was on this account that Buenos Ayres, founded by Mendoza, in 1535, obtained its present appellation. In Cuyo, on the frontiers of Chili, the winter is excessively cold, insomuch that the cattle die in the fields, if not housed; while, in summer, the heats are intense, and the thunder-storms are frequent and violent.

Soil and Productions.] The soil, equally with the climate, varies in this extensive country. In the Bolivian district of Potosi, where the climate is extremely cold and dry, the soil is remarkably barren; while at Tomina, 120 miles E. of Potosi, the air is hot and sultry, and the soil is covered with vineyards and sugar plantations. The vales of Tarija, watered by copious streams, are celebrated as surpassing every other part of America for beauty, salubrity, and fertility. Wheat, maize, cocoa, grapes, flax, Paraguay tea, &c. are here produced almost spontaneously. In the higher parts of Los Charcas, where the elevation renders the air continually cold, agricultural productions are few and scanty. Tucuman is a rich inland province, producing all kinds of grain and fruits, and abundant pasturage, but is of a warm and humid temperature. This province is well-watered, which adds to its natural fertility; and there are carriage-roads through the greatest part of it. The woods afford wax and honey, and plenty of game, but are infested with jaguars and other ferocious animals. Cotton is cultivated in the vicinity of St Jago del Estero, and a small quantity of cochineal is occasionally collected; but indigo, which was formerly here a great commodity, is now, through the neglect of the inhabitants, entirely lost. The province of Paraguay is rich in vegetable productions. The climate is generally temperate and agreeable; the trees are clothed in perennial verdure, and the extensive plains, which are covered with the richest pastures, are enlivened with prodigious herds of horned cattle, horses, and mules. The herb of Paraguay, a species of tea, grows here in great abundance, and forms a considerable article of traffic with the other provinces and with Peru. The Creoles drink this tea at every meal, and never travel without a sufficient supply of this favourite beverage; its use is, however, most universal in the mine-countries, as wine is there supposed to be prejudicial to health. Like opium, it gives sleep to the restless, and enlivens the spirits of the torpid; but, used to excess, its effects are similar to those produced by ardents spirits. The profits arising from the cultivation of this plant formerly belonged to the Jesuits; but since their expulsion, have fallen into the hands of the government, and are estimated at 500,000 dollars, or £112,500 sterling annually. The Bolivian district of Cochabamba is so fertile that it may be called the granary of Peru, as most of its agricultural productions are consumed in that viceroyalty. Every species of agricultural produce is raised here in abundance, its valleys being fertilized by a multitude of limpid streams. Many sugar-plantations are also established here; and its annual consumption of cotton is estimated at 1,000,000 lbs., while its forests teem with woods and roots for dying. The soil of Cuyo is fertile in grain and most kinds of European fruits. Wine is produced of excellent quality, which is drunk over all

Spanish America; and sometimes 20,000 barrels of this liquor are exported in one year, from Mendoza and San Juan de la Frontera. Brandy also forms a considerable branch of export from thence; and vacuna wool is exported in great quantities to Spain. The soil in the vicinity of Buenos Ayres, and also on the N. side of the La Plata, is in general rich and productive, requiring very little labour, and no manure, to raise abundance of wheat and maize, as also most kinds of European fruits, as grapes, melons, figs, apples, pears, peaches, cherries; and even the productions of warmer climates, as pimento, oranges, lemons, ananas, &c. Between the city and the river Saladillo is one complete level, without a tree or rising ground, till near the banks of the stream, 60 miles distant from the Spanish settlements.

The annual average return of wheat, in these provinces, is, according to Azara, 12 for 1, especially in the vicinity of Monte Video; and 16 for 1 is even estimated the regular return near Buenos Ayres. The cultivation of the cerealia, or European grains, does not extend beyond the parallel of 24° S. lat. The plains of Monte Video are more abundantly wooded and watered than those of Buenos Ayres, and the vegetation is so rank as to be noxious to the settlers. But, notwithstanding the exuberant fertility and benign temperature which pervades the greater part of this extensive country, its cultivation has been greatly neglected; and a colony which have been the granary of Europe, has hitherto produced little more than what merely supplies its own wants. The native pride and indolence of the Spaniards, and the extreme sluggishness of the Indians, effectually stop all agricultural improvements in this part of the New World; and extensive plains, watered by innumerable streams, are only employed to rear and fatten cattle. Many ages may pass before the agricultural value of this country shall be understood and properly appreciated by colonists descended from a nation never yet renowned for industry or liberality. Its mineral riches were the only inducements that attracted the first settlers from their natal shores. For these, the produce of its surface was neglected and despised; and the love of gold, not of industry, is the great magnet which still attracts Spanish adventurers.

The botanical productions of this viceroyalty are equal to its agricultural; but we are not well acquainted with the botany of the central, southern, and eastern provinces. The botanical productions of the northern provinces are similar to those of Peru. Among the Chiquitos, *quinquina*, or the shrub called Jesuit's bark, is abundant. Sarsaparilla abounds on the banks of the Uraguay and other streams, but it is not equal to that of Honduras in quality. Jalap abounds in Paraguay, as also white rhubarb, sassafras, mangay, the *palosanto*, the *guayacan*, the *zamu*, the *coa*, the *cupay*, the *nux vomica*, the *timbabi*, and *vanilla*. The greater part of these are medicinal. The vanilla is not equal to that of New Spain. The cacao prefers the Peruvian forests. In the forests of Tucuman and Paraguay, straight and lofty cedars are found excellently adapted for ship-building. The American pine, which is here called the *cury*, is harder than the European, and marked with red veins. The algorob, or carrob-tree, is of great utility; but the fruit differs, in form, size, and colour, from what is commonly sold in Europe, the latter having been brought from Africa into Spain by the Moors. The American species is not only a winter-provision for cattle and mules, but also affords a palatable food and an agreeable drink to mankind. Of this valuable tree there are several species to be found in the woods. The Indians make bread of the fruit by pounding it in a mortar, or a wholesome drink by infusing it in cold water, contained in a beeve's skin, when, in about 12 hours, the fermentation commences, and the liquor, acid at first, soon becomes sweet and agreeable. It is used even to intoxicate; the *laaga*, or juice of the carrob, being a favourite potation; and, if used moderately, is productive of increased health and vivacity. It chiefly abounds at Chaco, and near Santiago, where its benefits are extended to horses, mules, and cattle, which it fattens in a surprising and sudden manner. There are numerous and beautiful species of palms. Among the native fruits is the *jujud*, *yacanichana*, and the *quabyra*, resembling a cherry, but of nauseous smell. In one species of the quabyra, a species of ants nestle, and form a wax as white as snow, and smelling like frankincense. Of this, candles are made for divine service. The *guimbi* is a native of northern Paraguay; its fruit is of a cylindrical form, as thick as the fist, and sometimes weighs two lbs. It yields a delicious pulp, and grows on a strong creeping plant. The *tatay* produces a fruit like the mulberry, but yellow. The *mammon* resembles a female breast, whence the name; it grows on the trunk of the tree, and in size approaches the melon. The pips of the *angay* being of a splendid violet colour, and triangular shape, are used by the Indian women to make necklaces. The fruit of the *tarumay* resembles the olive, but is far inferior. The *molli* yields a copious and fragrant gum. Other fruits, as the manioc, the magvey, bacoba, banana, and ananas, or pine apples, have been described already. The *zevil* yields a bark used in tanning. The *urucuy* shrub yields a strong scarlet dye. The *umbu* is of a prodigious size, sufficient to cover 50 men with its thick shade. The *nakalic* attains five feet in height, and yields a beautiful yellow, used by dyers and painters. The sugar-cane is planted about the end of August; but the cultivation is far inferior to that of Brazil, where it yields a prodigious return to the Portuguese cultivator. Potatoes of a great size abound in Paraguay, and are found of a red, white, yellow colour, but the last are esteemed the best. The *mani* grows under ground; the fruit resembles the almond in taste and form, and produces an oil superior to that of the olive. Around Buenos Ayres, Monte Video, and Santiago del Estero, large quantities of wheat are cultivated. Water-mills are, however, unknown; and though sometimes wind-mills appear, yet generally the wheel is drawn round by horses or mules. Oats are totally unknown in this country, horses being always fed with barley. The culture of the vine is confined to Cordova, Rioja, St Jago de la Frontera, and the valley of Cattamarca, in Tucuman. Abundance of tobacco is produced in Paraguay; and the Abipons being accustomed to rub their teeth with salt and tobacco, never lose any, even in old age.

Zoology.] The Zoology of this country is much the same as that of Peru and Chili. The jaguars of South America are not particularly fierce on account of the facility with which they obtain their prey on the plains, they are not equal in size or in ferocity, to the Bengal tiger. They run very quick, but soon tire. They commit great havock amongst the oxen, sheep, mules, and asses. A great many tigers are caught with the *lasso* by the Indian and Creole inhabitants for the sake of their skins. There are also some lions, but they are unlike those of Africa in form, size, and disposition. They seldom attack any thing but calves, foals, and sheep. The colour of their skin is tawny, with whitish spots. Their head is large and round, eyes sparkling, and nose flattish. The chief animal of the graminivorous kind, is the *anta*, or tapyr, which grows to six feet four inches in length, exclusive of the tail which is nearly four inches long. Animals of this description are very numerous on the banks of the Parana and Paraguay. There are eight species of armadillos peculiar to this viceroyalty. The ant-eater, the hippopotamus, the guanaco, the paco, the vicuna, the glama, and the chilihuique, all already described, abound here. Elks and deer are numerous. The *zorrino* is very common on the plains. It is equal in size to a small rabbit, of a chestnut colour, marked on each side by two white lines. Its shape is elegant, but it emits an intolerable odour; and at every passer-by it darts, with unerring aim, a liquor so pestilent, that dogs, if sprinkled with it, will howl and roll themselves on the ground as if scalded. This fluid shines in the night like phosphorous. Although this animal is small and weak, it may be considered the terror of the plains. It is dreaded by tigers, lions, mastiffs, and every animal, as well as human beings. Whoever desires to possess its beautiful skin must, in order to catch it without injury to himself, take it by the tail, and hold it with the head towards the ground; for by this means it loses the use of the muscles which enable it to emit its pestiferous defence.

Among the immense variety of birds which inhabit this country, Azara has enumerated 448 different species, of which the *nandu*, (or ostrich), and condor, are the largest. The size, form, and colour of these, have been already described. The latter is represented by the Indians as being able to carry off a deer or a calf in its talons, with as much ease as an eagle would a hare or a rabbit. Ostriches impart a lively interest to a ride in the Pampas. They are seen sometimes in coveys of 20 or 30, gliding elegantly along the gentle undulations of the plain, at half pistol shot distance from each other, like skirmishers. The young are easily domesticated, and soon become attached to those who caress them: but they are troublesome inmates; for, stalking about the house, they will, when full grown, swallow coin, shirt-pins, and every small article of metal within reach. Their usual food, in a wild state, is seeds, herbage, and insects: the flesh is a reddish brown, and, if young, not of bad flavour. A great many eggs are laid in the same nest, which is lined with dry grass.

There are about 20 different species of serpents in this country, one of which is of prodigious size, equalling the buio of the Oroonoko. The rattlesnake is not uncommon; its bite is cured by the root of a plant resembling the lily; but according to Dobrezhoffer, musk is the surest antidote. Bugs are known only among the Spaniards, and do not haunt the Indian towns; yet they seem natives of America, and breed in a kind of melon, whence they will inundate a whole garden. Locusts form an annual pestilence, and are of a great size, often exceeding the length of one's middle finger. There are also a prodigious number of beautiful fire-flies, and other insects which emit light.

Domesticated animals of European importation have increased prodigiously in this country. The number of horned cattle which traverse the plains of Paraguay and Buenos Ayres, were estimated by Azara at 12,000,000, and the horses at 3,000,000; besides a vast number of sheep divided among a great many *estancias*, or farms, each possessed by a single proprietor. An ordinary farm contains five or six square leagues, and is under the charge of a *carapataz*, or 'master-shepherd,' and a servant for every thousand cattle. These shepherds, however, never accompany their flocks into the fields, as in Europe, but content themselves with merely collecting them once a week, in order to prevent them from wandering beyond the limits of the farm. "One hundred years ago," says Miller, "when the plains were covered with cattle, travellers were accustomed to send horsemen before them to clear the road. The Spaniards, finding the trade in hides[3] extremely lucrative, employed troops of horsemen for the purpose of slaughtering the cattle. These men had each separate tasks assigned them: some, well mounted, attacked a herd of oxen, and with a crescent-shaped knife fixed at the end of a long handle, hamstrung the cattle as they fled; others were thrown down by means of the *lasso*, whilst a third party brought up and drew a knife across the throat of the prostrate animals. Others were employed in stripping off the hides, and in conveying them to an appointed place; in fixing them to the ground with pegs, and taking out and carrying away the tongues and fat. The flesh, which would have sufficed to feed a numerous army in Europe, was left on the plain to be devoured by tigers, wild dogs, and ravens. In an expedition of this sort, which generally lasted several weeks, the person at whose expense it was undertaken obtained several thousands of hides, each of which, when dried, was worth four times as much as a live bullock, in consequence of the expense necessarily incurred in killing the oxen, and the labour of drying the hides in the sun. This custom of hunting and slaughtering cattle having been continued for a whole century, almost exhausted the plains of unowned cattle. The herds now seen are the property of individuals. Oxen seldom wander far from their native pastures, and are easily prevented from straying into adjoining estates by a little attention on the part of the *peons*. Every proprietor knows his own stock by a particular mark which is branded at the castrating season. The young bull is caught with the *lasso*, thrown down, and the horns fixed into the ground whilst he undergoes the operation. The time of performing this is made an annual scene of jollity; neighbours assembling at different estates in turn, and ending their labours with carousings. *Carne cone cuero* (meat in the skin) is a favourite dish on occasions of festivity. The moment a bullock is killed, the flesh on each side of the spine, beginning at the rump, is cut out, with enough of the hide to lap over and meet, so as to be sewed together, to prevent the juices from escaping. It is then covered with embers, and roasted like an onion or potato. Vast numbers of mules are reared for the service of the mines in the plains of Buenos Ayres. In Peru, where no mules are bred, they are employed in travelling, and in carrying loads from the mountains. The town of Salta is the great mule and horse-fair, where the people of Cordova, Europeans, and Americans, who have sales at Buenos Ayres, Santa Fé and Corrientes, attend. General Miller says, "the horses on the plains of Buenos Ayres are generally from 14 to 16 hands high, plenty of bone and swift. Although their food is pasturage alone, they are often ridden a distance almost incredible. Thirty-five leagues in 14 or 15 hours is not an uncommon thing for one horse to perform. The equality of the stoneless plain, and the easy gait of the unshod horse, do not a little concur to render the performance of long journeys easy. The horses of the plains are exposed to the stings of musquitos, to scorching sun, heavy rains, and hoar-frosts in winter, when the south wind blows bitingly cold, all which render them extremely hardy; whilst the liberty they enjoy in wandering up and down the plains, plunging in running streams, or large pools of water, at pleasure, added to the invigorating effects of pure air, render them less subject to disease than the horses of Europe, confined to hot and unwholesome stables, and where the hardness of the roads subject the hoof to the torments of the smith."

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[3] Hides have not only become valuable on account of the immense number of them exported to Europe, but also because the consumption is so great in South America. Incredible quantities are expended in the manufacture of *lassos*, in the fastenings of houses, fences, and cattle-pens, and in the making of trunks and bags to convey the herb of Paraguay, tobacco, sugar, wheat, cotton, and other goods.

Mineralogy.] The mineralogy of this country when a viceroyalty was almost wholly confined to the N.W. provinces, formerly strictly considered as Peruvian,—for in reality Charcos, Tucuman, and even Buenos Ayres, were all regarded as dependencies of Peru, previous to 1778. With the exception of New Spain, the upper part of this country still justly deserves the appellation of *La Plata*, given to the whole, being the richest country in silver perhaps, yet discovered on the globe, as—exclusive of Potosi—the mines of gold and silver may be said to be innumerable. *Lipes*, *Chichas*, *Porco*, the chain of *Aullagas*, pervading *Chayanta*, *Oruro*, *Paria*, *Carangas*, *Sicasica*,—in short all the northern provinces teem with mineral opulence, while *Laricaja* and *Carabaya* are noted for virgin-gold. These mines are all in the hands of private individuals, who, on discovering a mine, receive a grant from government, and are only held to pay a duty on the minerals extracted. The following table, given by Helms, presents a specific list of the various mines in the different districts, as recorded in the chancery of the Spanish regime:

DISTRICTS.	*Gold Mines.*	*Silver Mines.*	*Copper Mines.*	*Tin Mines.*	*Lead Mines.*
Tucuman,	2	1	2	0	2
Mendoza,	0	1	0	0	0
Attacames,	2	2	1	0	1
Carangas,	0	2	1	0	0
Lipes,	2	1	1	0	1
Porco,	1	2	1	0	0
Potosi,	0	1	0	0	0
Pacajes,	0	1	0	0	0
Chucuito,	0	2	0	0	0
Puno,	0	1	0	0	0
Lampa,	0	2	0	0	0
Chichas, and Tarija,	4	5	0	0	1
Cochabamba,	1	0	0	0	0
Sicasica,	2	0	0	0	0
Laricaja,	4	0	0	0	0
Omascuyo,	4	0	0	0	0
Asangara,	3	0	0	0	0
Carabaya,	2	1	0	0	0
Chayanta,	2	3	1	1	1
Misgue,	0	1	0	0	0
Paria,	0	1	0	1	1
Monte Video,	1	0	0	0	0
Total,	30	27	7	2	7

Of these the famous mines of Potosi, now belonging to Bolivia, were by far the most productive. As to the quantity of the precious metals furnished by the other mines it is impossible to determine the amount; but the whole is generally estimated at about one-fourth of that of Potosi. In the district of Carangas, detached pieces of silver, unmixed with stone or ore, are found in the sandy deserts, near the coast of the South sea. These pieces are called *papos*, or yams, being taken out of the sand in the same manner as that root is taken out of the ground, and are of various forms and sizes. Ulloa mentions two which he saw at Lima, the one weighing 60, and the other 150 marks. The principal gold-mines were those of Cochabamba, now belonging also to Bolivia. Considerable quantities of gold in dust and in grains, are found in the sand of the Vermeyo, in the district of Chayanta; and particles of gold abound in the streams watering the vicinity of the Indian town of Mojos, but much of it is lost, as those only are collected which are of the size of a large pin's head. A gold mine is now wrought in the neighbourhood of Monte Video. Concerning the quantity of this metal which has been furnished by the viceroyalty of Buenos Ayres, since the first discovery of these mines, there is no account. According to Humboldt, the annual average produce of the mines of the viceroyalty was 2,200 marks of pure gold, at $145\frac{83}{100}$ dollars per mark; and 414,000 marks of fine silver, at $9\frac{4}{10}$ dollars per mark; total, 4,212,404 dollars. Estimating the contraband at one-sixth of the registered produce, or 69,000 marks, we have a total annual produce of 2,200 marks of fine gold, and 483,000 marks of fine silver, or 4,867,000 dollars, or £1,095,075 sterling annually. In the mountains of Pacajes, are mines which supply a stone called white jasper, which is beautifully transparent, and is used for windows. There are several mines which yield gems, particularly one of emeralds, much prized for their quality by European lapidaries, but which for some latent reason, has not lately been resorted to. From this mine, probably, it was that the Incas derived those extraordinary emeralds, which excited the wonder and avarice of the Spaniards, who ignorantly destroyed great numbers of them from the erroneous idea, that if they were real gems, they would resist the stroke of the hammer on the anvil. Many of these have been found in the ancient tombs of the Peruvians, polished and wrought in spherical, cylindrical, and other figures, with mathematical accuracy, and with all the delicacy of European workmanship.

CHAP. VII.—INHABITANTS AND PRESENT POPULATION.

The inhabitants of this extensive country are composed of the same classes as those of the other Spanish colonies, viz.: European Spaniards, Creoles, people of Colour, Negroes, and Indians. Of these, the Europeans held (till the late revolution) the first rank: and filled, with few exceptions, every office of trust, power, and influence, in the country. The Creoles who have at present gained the ascendancy, held an inferior political rank to the Europeans. The people of colour, the negroes, and Indians, still hold the same relative situations in society,—the Indians, as usual, being lowest in the scale. It is impossible to fix the number of inhabitants, and the relative proportions of the classes to each other. Azara, Estalla, and Humboldt, give nothing but conjectures on this part of the subject. Estalla estimates the amount of the Creole population—previous of course to the present dismemberment of the viceroyalty—at 1,000,000; and Humboldt, at 1,100,000,—the people of colour, negroes, and Indians excluded, the last of which classes, forms, according to Estalla, but a handful. We have inserted some other calculations on this subject at p. 205. As little can be said respecting the amount of the Indian or aboriginal population. The unsubdued Indians of the Paraguay province of Chaco, are estimated at 100,000. On the banks and to the E. of the rivers Paraguay and Parana, are the *Charcas* and *Minanes*, who long withstood, with the most determined resistance, the subjugation of their country: these are now reduced to a few hundred warriors. The *Chiquitos*, a numerous, civilized, and industrious nation of independent Indians, inhabit the country to the W. of the marsh of Xarayes, and from S. lat. 28° to S. lat. 20°, having the province of Santa Cruz de la Sierra on the W. The *Mojos*, another numerous nation of unsubdued Indians, inhabit to the N.W. of the Chiquitos, along the boundaries of the Portuguese Spanish and possessions. The *Manoa* tribes inhabit the country in the vicinity of the Mojos. The unsubdued Indians who dwell along the frontiers of the Tucuman and Chili, and S. of the provinces of Cuyo and Buenos Ayres, are generally denominated *Moluches* and *Puelches*, and are divided into a great variety of independent tribes, of which we have very little knowledge. They inhabit the immense plains to the west of the Plata, and to the east of the Chilian Anes. The *Guaranies*, who inhabit the country east of the Paraguay, Parana, Uraguay, as far as the frontiers of Brazil, were numerous and warlike, but were gradually civilized by the indefatigable labours of the Jesuits, and settled in villages and townships, under the appellation of *reductions*, which grew and flourished under the care of the reverend fathers to such a degree of opulence and prosperity as alarmed the neighbouring colonists, and excited their hatred. The number of these converted Indians was stated to amount to 340,000 families; which, allowing only 4 to each family, would amount to 1,360,000 souls, all under the care of the Jesuitic republic. Seven of these reductions to the E. of the Uraguay, having been ceded to the crown of Portugal, in exchange for St Sacrament,—the Guaranies, who were always enemies to their Brazilian neighbours, maintained, that as their submission to the crown of Spain was merely voluntary, they could not be disposed of without their own consent to any other power, and flew to arms in defence of their rights. For several years they resisted the united force of Spain and Portugal; and rather than submit, determined to abandon their country; they carried off all that they were able, set fire to the remainder, and left nothing but a desert to their enemies. The Jesuits were suspected of having promoted and aided the rebellion of the Guaranies; and though they openly disavowed the charge, they were unable to free themselves from the imputation. They did not long survive this dismemberment of their dominions. Their expulsion from Spain, in 1767, was immediately followed by the total subversion of their American dominions. The missions were converted into regular Spanish settlements; and the Jesuits were succeeded in their spiritual labours by the Franciscan and Dominican monks, and those of the order of mercy. We may form some estimate of the prosperity of these reductions, from the number of cattle which they possessed at the time of their annexation to the government of Paraguay, namely, 769,353 horned cattle, 94,983 horses, and 221,537 sheep. Since that time, we hear no more of the Guaranies, or of the other converted Indians to the east of the Paraguay, the Parana, or the Uraguay.

Character, Manners, and Customs.] There is a sameness in the character of the Spanish-American population, that in describing that of one viceroyalty, we may be said to describe that of all the rest, a few local modifications excepted. The same jealousies reign between the classes,—the same ambition, wealth, and industry, characterize the European Spaniards,—the same pride, indolence, and luxury, prevail among the Creoles of Buenos Ayres, as among the other Creoles of the Spanish settlements. The strictest equality reigns among the Creoles. No invidious distinctions of rank are acknowledged among them. They have neither titles, entails, nor feudal tenures; and the only existing difference among them is purely personal, arising either from the fortune or the reputation of the individual. No white would consent to serve the richest noble of his nation; and the viceroy himself was contented with the service of negroes, or men of colour, and Indians. The manners of the city Creoles differ considerably from those of the country Creoles. Buenos Ayres, Assumption, Monte Video, Corientes, Maldonado, and Santa Fé, present many scenes of indolence, vice, voluptuousness, and dissipation; to sleep, to walk, to ride, and to smoke cigars, is in many instances the whole occupation; and the facility with which existence can be supported, or a livelihood can be obtained without toil, and the many opportunities which this country offers of even acquiring a fortune, encourage this listless and inactive life. Yet with all these vices and indolent habits, the Creoles are possessed of good natural abilities. The Creolian females are esteemed as much more handsome than the Spanish ladies,—the jetty blackness of their hair and eyes contrasting admirably with the brilliant whiteness of their skin. They are all, however, equally indolent as their husbands, fond of show, and greatly resemble in dress and manners the ladies of Old Spain. With all this external pomp of dress and furniture, the interior of the Creole houses are described as extremely filthy; ablution of any kind is never, or only very negligently performed; the rooms are filled with every species of vermin, and the ravages of the ants are only equalled by those of the mice and rats.

The inhabitants of the country are divided into the two classes of agriculturists and shepherds. The latter are by far the most numerous; but their character is extremely bad. Addicted to the grossest vices, and sunk in ignorance and superstition, they seem completely to have forgotten their origin, and are almost on a level with the savages themselves. Their habitations—which are generally situated near the centre of the *estancia*, or farm—are miserable huts,—the furniture chiefly consisting of a cask for holding water, a horn to drink with, a wooden spit, and a small copper vessel, in which they infuse the Paraguay tea. Some, indeed, have a wooden bench, or chair, and a kind of bed; but the greater number sit upon their heels, or the skulls of their cattle, and sleep on skins spread on the floor. Their only food is roasted meat, eaten without salt, and at no stated hours; pulse and vegetables being considered as no better than grass, and fit only for horses. The offals and bones scattered round their huts, engender an infinite number of flies and noxious vermin; and collect vast numbers of ravenous birds, which deafen them with their constant cries. Their dress is in strict accordance with the meanness and filth of their habitations. Few have a shirt. A *poncho*, or cloak, consisting of a piece of coarse woollen or cotton cloth, manufactured in the province of Tucuman, about three feet long, and two feet broad, with a hole in the centre for the head to pass through; a hat; a pair of drawers; and half-boots, made of the skins stripped off from the legs of their cattle, constitute the whole of their clothing. Besides these, the master-shepherd, or proprietor, has a doublet, vest, breeches, and shoes. The women are dressed merely in a shirt without sleeves, which is bound round the middle with a girdle. The shepherds of the Paraguay are, however, more cleanly and decent in their apparel, and better lodged, than those of Buenos Ayres. The shepherds are most dexterous horsemen. Indeed they hardly know what it is to walk, as they never go any distance on foot. So habituated are they to riding, that they will keep their seat on the most furious animal. The principal operations of the farm are performed on horseback. The weekly gathering of the herds is made at full gallop; but as, from the extent of some of the pastures, the cattle is nearly in a wild state, they are hunted and killed in the same manner as the wild oxen in the plains of the pampas.

The common method of slaying their cattle, is to drive a certain number into an enclosure, where the shepherds assemble on horseback, armed with spears in the form of a half-moon, a knife, and catch ropes; as many beasts are then turned out as there are men in waiting, when each pursues his prey at full speed. If the bullock be swifter than the horse, the shepherd with wonderful dexterity throws his catch-rope round his neck, or entangles one or both of his hind legs, by which means he is easily secured; but he is generally hamstrung with a spear, and is then despatched with a knife. This employment is continued every year, until all the cattle appointed for the annual slaughter are killed. Almost every thing is done on horseback; they fish on horseback,—carry water from the well on horseback,—and attend mass on horseback, remaining at the church door, which is purposely left open, that they may hear the service!

The Mestizoes and Mullatoes are chiefly employed in the mechanical arts, and are the most robust and useful classes of the community. Among them are found professors and teachers of the liberal arts.

The Negroes, who occupy the third grade in the scale of South American society, are very differently treated from those of their brethren in our West Indian possessions. The little comforts and indulgencies which they are allowed by their Spanish masters to enjoy, cannot but put to shame our British planters and those of the United States, who, with all their boasted freedom, have reduced this unhappy portion of their species to the most degraded servitude. If we may credit Azara, many of the slaves never hear the sound of the whip while they live; are treated with great kindness and attention when sick; and are never abandoned in old age. They are even better fed and better dressed than the poorer classes of the whites, *and many of them obtain* their freedom after a short period of service. It *is to be hoped, that as the present independent government* of Buenos *Ayres has totally abolished the slave trade, that still* greater ameliorations *will take* place in the condition of the negroes, till slavery itself be finally annihilated. In the meantime there exist a number of societies approved by the supreme authority, whose objects were, 1st. To liberate with their funds those slaves, who, by their good conduct and industry, prove worthy of this favour, being bound to reimburse the price of their manumission, with interest at five per cent. 2. To attend to the moral education of all the youths incorporated in the society. 3. To assist the industry of the members, by furnishing them with implements for their respective labours; their value to be paid for according to stipulations. 4. To take care that every member observes a moral and industrious conduct. 5. Once in every year to make offerings for the souls of the dead. 6. The funds of the society are composed of the annual produce of the property, and of a monthly contribution of the free members, at the rate of two reals for each father of a family and four reals each single man. At the time of incorporation, each member pays, moreover, four reals at once. None can now be born slaves, and every facility is given to manumission. The price of slaves is moderate, seldom exceeding 300 dollars, and no person can demand for a slave more than what he gave.

Religion and Ecclesiastical Government.] Here, as in all Spanish America, the established form of religious worship is Roman Catholicism, but religious toleration has been expressly stipulated for in the treaty of recognition by Great Britain. The ecclesiastical establishment of Buenos Ayres equals in power and splendour that of any state in Europe, and the superstitious liberality of the American Spaniards has adorned the cathedrals and churches with the most profuse munificence. Numerous monasteries and convents are scattered throughout the whole viceroyalty, which have proved incalculably inimical to the prosperity and population of the country. But a more liberal system is now beginning to prevail, a school has lately been established at Buenos Ayres for the education of the lower classes of the English residents, at which upwards of 130 children receive daily instruction. The following extract gives an interesting account of the commencement and progress of the first Protestant Sunday school:—"The number of teachers who have classes regularly assigned to them is twelve. Some others assist occasionally, and some of these attend only in the afternoon. Among them are Presbyterians, Independents, Baptists, and Methodists; and among the children are some of almost all Protestant denominations, and several Catholics. Yet on the broad ground of the Bible, and the practical purposes of the gospel, all meet in harmonious concord. The most gratifying harmony and unanimity pervade all the deliberations and exertions of the teachers, and no complaint either from children or parents has reached our ears. It is pleasing to observe the rise of such institutions in a country not many years ago under a dominion most unfavourable to their growth; and although at their beginning they may appear inconsiderable, we trust that the period is not far distant when their influence will be powerfully and beneficially felt throughout South America"

CHAP. VI.—GOVERNMENT—REVENUE—COMMERCE.

The government of the viceroyalty of Buenos Ayres was managed precisely in the same way as those of the other Spanish colonies already described. The salary of the viceroy was 40,000 dollars; which, after deducting the half-year, and other casualties, was reduced to 30,000 dollars. Those of his assessor, fiscal, and secretary, amounted to 3000 dollars each. He was supreme president of the royal audience of Los Charcas, and of the new royal audience created in 1785, at Buenos Ayres; he exercised the royal vice-patronage; he approved the nomination of the curates; and his jurisdiction extended (in ordinary cases) to the monasteries themselves. The elections of magistrates were confirmed by him, and the governors of provinces were his sub-delegates. He was the supreme head of the police, and superintendant of the post-office, under the first minister of state, who is post-master-general throughout all the Spanish monarchy. The Congress-general of the United Provinces is now composed of deputies from all the provinces, each province being entitled to send one deputy for every 15,000 of population. It is pleasing to know that the laws, which were for nerly suspended or modified at the caprice of the authorities, are now enforced with equity and impartiality; and in the selection of individuals to fill situations of trust and confidence, the great requisites looked for, are knowledge, integrity, and fitness for the situation; favour and family influence have not now, as formerly, much to say on such occasions. However, the greatest and most important of all the changes which are taking place among these people, is in point of morals and public opinion. The fanaticism, bigotry, ignorance, and moral depravity, which formerly prevailed in these countries, are now fast disappearing, and giving place to a new order of things, more in accordance with the enlightened and improving spirit of the age; education is advancing, and there is, especially among the young people, a growing spirit of inquiry and improvement, which scarcely any human event can now arrest in its progress.

Revenue.] At the head of the royal treasury under the old regime was an intendant of the army, a kind of paymaster-general, with a salary of 10,000 dollars, and who presided over the tribunal of accounts, composed of three chief accomptants. The public revenues were divided into the four following branches, namely:—1st. What was paid to the king as superior; 2d. The duties on commerce; 3d. What the sovereign received as head of the church; 4th. What were formerly royal monopolies. The produce of these respective branches was estimated as follows:—

	Dollars.
First Class.	
Duties on gold and silver coined at Potosi, amounting to about 11⅓ per cent.	650,000
Duties on coinage,	120,000
Tribute of the Indians,	550,000
Second Class.	
Alcavala, or excise of four per cent. on goods sold,	385,000
Minor Duties of Excise,	200,000
Stamp Duties,	32,000
Customs on imports and exports,	750,000
Third Class.	
Produce of bulls of Cruzados,	160,000
First-fruits and ecclesiastical annates,	30,000
Royal ninths of the tithes,	72,000
Fourth Class.	
Monopolies of mercury, tobacco, gunpowder, and paper,	350,000
The assiento of negroes,	200,000
On Paraguay tea, (formerly levied by the Jesuits),	500,000
Other revenues formerly belonging to the Jesuits,	400,000
Total,	4,399,000
In British money,	£989,775

From this it appears that the royal revenue received an increase of 900,000 dollars by the expulsion of the Jesuits, or £202,500 sterling. Of this revenue, however, no part went to the parent state, the whole being absorbed in the expenses of the internal administration of the country; and such were the sums needed for supporting this splendid establishment, that very little was spared for the purposes of defence or amelioration. According to Humboldt, however, the crown of Spain derived a clear surplus of 700,000 dollars, or £157,500 sterling, from the gross revenue of this viceroyalty. The amount of the present revenue is not known.

Military and Marine Force.] The military force of the republic is estimated at 28,000 men; and the naval force amounts to 15 small vessels carrying from 7 to 14 guns.

Commerce and Manufactures.] At the period when this colony was founded, the precious metals were the only object of pursuit to adventurers, and the only articles of export. The prospects of immediate affluence became too alluring to such persons; they disdained to bestow a moment's attention on such objects of inferior importance as the agricultural productions of the country, and none were raised, but such as from their rarity and value were in great demand at home. The culture of the vine and the olive, and the establishment of several kinds of manufactures, were prohibited under the severest penalties; for the system pursued by the court of Spain, was the same here as in all her colonial dominions, namely, to sacrifice the colony for the supposed advantage of the parent state. The luxuries, the clothes, the furniture of the colonists, nay, even their agricultural implements, and a considerable quantity of their provisions, were imported from Spain, for which they gave in exchange the produce of their mines and plantations. This traffic was carried on exclusively in Spanish bottoms, and wholly confined to the ports of Porto Bello and Vera Cruz, in the gulf of Mexico. For a long time no vessel belonging to the colonists was allowed to trade with Europe; and even the commercial intercourse between the different colonies was either entirely prohibited, or fettered with the most jealous restrictions. At length, in 1774, a free intercourse was opened between several of the American provinces; and, in 1778, under the ministry of Galvez, seven of the principal Spanish ports, to which, in 1778, five others were added, (in place of the solitary port of Cadiz,) were permitted to have a free trade with Buenos Ayres and the ports of the South Sea.[*] These regulations, together with the erection of Buenos Ayres into an independent viceroyalty, in 1778, gave it importance and stability; and from that period, its maritime commerce has sensibly and rapidly increased. Previous to 1778, about 12 or 15 registered vessels only, were engaged in the colonial trade of South America, and those seldom performed more than one voyage in three years; but in 1778 their number had increased to 170, and the value of their cargoes amounted to £1,958,676 sterling. By the farther encouragement of the trade of Buenos Ayres, salted meat and tallow were allowed in the year 1793 to be exported duty free; and by this, and other regulations, the trade and population of the adjacent provinces were considerably increased.

The internal commerce of Buenos Ayres, or that carried on with its own provinces, is considerable. Of this traffic, the herb of Paraguay forms the most important branch: 2,500,000 lbs. of it pass annually into Peru, and 1,000,000 lbs. into Chili. It is conveyed in covered waggons drawn by oxen, from Santa Fé to Jujuy and Mendoza; and from thence is carried on the backs of mules to Potosi, La Paz, Peru, and Chili. In Paraguay, the price of this article is 4 dollars, or 18*s.* per arroba of 25 lbs. At Potosi, however, the price is more than double, and increases as it proceeds north. Immense droves of cattle pass annually into Peru; and 60,000 mules of two years old, are annually purchased in the viceroyalty, for that country. The greatest part of European commodities consumed in Chili, are drawn from Buenos Ayres. A considerable commerce is also carried on with the independent tribes that surround the viceroyalty, particularly with the Pampas and Puelches. Some gold of a very superior quality, which is supposed to be collected among the mountains and upland springs on the banks of the Uraguay, has been lately brought to Buenos Ayres by the Indians, who contrive to barter it with the Anglo-Americans or other foreign merchants.

CHAP. VI.—PRINCIPAL CITIES.

Buenos Ayres.] Buenos Ayres the capital is situated in 34° 36′ 28″ S. lat. and 57° 24′ W. long. It extends along the S. side of the La Plata, and derives its name from the peculiar salubrity of its climate. It was originally founded by Don Pedro de Mendoza, in 1535; and in 1620 was erected into a bishopric, and constituted the capital of a province of the same name. The city is built with great regularity and neatness, and is watered by several small streams, which discharge themselves into the La Plata. Taste and opulence are displayed both in the streets and houses; which latter are generally built of bricks or chalk, with flat roofs, but seldom exceed one story in height. Many of them have parapet-walls on the top from three to four feet high; and those of the more wealthy inhabitants, have a vestibule, and a court surrounded by the apartments. The interior of the houses, however, correspond but very ill with their external appearance. During summer, the rooms are covered with Indian netting; and in winter, with European carpets: but from the indolence of the inhabitants, they are seldom kept clean, and that part of the town which is principally inhabited by mestizoes and negroes, is nothing but a receptacle of filth. Almost every house is surrounded with a garden, and many have balconies with lattice work for containing shrubs and flowers. The principal square, or parade, which is very spacious, faces the La Plata, and is surrounded with superb buildings. On one side, fronting the river, is the castle, which, considered as a post of military importance, is very insignificant. It contains the palace and a royal chapel. On the opposite side stands the town-hall, and on the west side, the cathedral, which is a new and a spacious structure, built on the site of the former, which had become ruinous. The cathedral has a cupola and portico of very elegant workmanship, with three naves, besides several chapels; and had cost, in 1798, 500,000 dollars, and would cost an equal sum to complete it. The church formerly belonging to the Jesuits, is a large and splendid building, but is now used as the cathedral, and is intended for a university when the new cathedral shall be completed. The churches of St Francis, and the convent of St Mary, are built with a cupola and steeple, nearly in the same style as the new cathedral. The church of St John, which is on the skirts of the town, is appropriated to the Christian Indians. The other public buildings are, two hospitals, one for men, and another for women; an orphan hospital; a foundling hospital; and a college, where grammar, philosophy, and theology, are taught. The chapter of the cathedral consists of a bishop, whose annual revenue is about 20,000 dollars, three dignitaries, and two canons. Besides these, there are in the city above 136 ecclesiastics, independent of four monasteries of Franciscans, Dominicans, and of the Fathers of Mercy and of Bethlehem, and two nunneries. For three leagues round the city, the environs present a beautiful and well-cultivated country, full of gardens and groves, and diversified with fields of wheat and maize. Here almost every person in easy circumstances has his *quinta* or country-house, and a large garden. Beyond these fields are immense meadows covered with constant verdure, and filled with innumerable herds of oxen and wild horses. Authors differ so widely in their estimates of the population of this city, that it is impossible to determine it. According to Azara, the population is 40,000; Helms estimated it at from 25,000 to 30,000; the estimate of Estalla is the same with that of Azara, one-half of which he says are Spaniards and Creoles. Sir Home Popham estimates it as high as 70,000 inhabitants, including the suburbs and immediate vicinity. Buenos Ayres owes its chief importance to its having been the capital of the viceroyalty, and the chief road by which European goods pass into the interior, and the port whence the metallic treasures of Peru and Potosi are shipped for Europe.

Cordova.] This is a tolerably large city, in the province of Tucuman, and capital of a district of the same name. It was founded in 1573, and is situated 468 miles N.W. of Buenos Ayres, on the road to Potosi and Lima, in a marshy but rich and fertile soil, on the small stream of the Primero, which is lost in the sands to the S.E. It is a bishop's see, and has several ecclesiastical establishments, as well as an university, and a seminary for young gentlemen. The Spanish inhabitants amount to 1500, with about 4000 negroes. They are chiefly employed in tilling the ground, and manufacturing cloth, both of cotton and wool, which they send to Peru. The cathedral is a handsome edifice ; and the market-place is spacious, and adorned with large buildings. The streets are cleaner than those of Buenos Ayres, being all well-paved. S. lat. 32° 10′, and W. long. 63° 30′.

Mendoza.] Mendoza lies on the E. side of the Andes, about 1000 miles W. from Buenos Ayres, and is, from its position, one of the most secluded places in South America. The climate is decidedly better than that of the plains of La Plata ; and it possesses every advantage necessary to insure its prosperity, except facility of communication with other countries.

The other chief towns in this viceroyalty are the following, namely.:

Corrientes, 480 miles N. of Buenos Ayres ; population, 4,500 ; S. lat. 27° 27′ 21″ W. long. 58° 25′.

Maldonado,	founded in	1730,	S. lat.	34° 53′ 12″.
Colonia,	——	1679,	——	34° 26′ 10″.
Santa Fé,	——	1578,	——	31° 40′ 29″.
Villarica,	——	1576,	——	25° 48′ 55″.
Capiata,	——	1640,	——	25° 21′ 45″.
Candelaria,	——	1627,	——	27° 26′ 46″.
San Jago del Estero,	——	1570,	——	27° 46′.
San Miguel,	——	1549,	——	27° 25′.
Salta,	——	1582,	——	24° 15′.
Jujuy,	——	1593,	——	23° 5′.
Santa Cruz,	——	1575,	——	17° 49′ 44″.
San Juan de la Frontera,			——	32°.

CHAP. V.—REPUBLIC OF PARAGUAY.

As a supplementary article to our account of the United Provinces of South America, we must devote a brief space to the province of Paraguay, which by act of the 24th September, 1826, declared itself a free and independent state ; although, it will in all probability reunite itself with the Buenos Ayrean provinces on the death of its present political chief.

This republic is situated between the parallels of 24° and 27° 30′ S. lat. It is divided on the N. and N.E. from Brazil by the Xexuy and Parana ; and on the S.E. and S. from Buenos Ayres by the Paraguay. Its extent from N.E. to S.W. is about 380 miles ; and its surface at 10,000 square leagues, and since the expulsion of the Jesuits, there is added to it the inconsiderable district that lies between the Parana and the Uraguay, where a part of the missions of this order is stated to have been established. The population, small in regard to its surface, consists of whites, blacks, and a mixed race. The first class comprises 800 Spaniards, and the remainder, being Creoles, forms seven-tenths. The Indians compose about another tenth ; while the mixed race and the blacks make up the other two-tenths. The country is divided into 8 departments and 28 municipalities. Its capital is the city of Assumption. It is situated 18 miles above the junction of the upper mouth of the Pilcomayo with the Paraguay. It contains a few Spanish families, and several thousands of Indians and Mestizoes. From Buenos Ayres large boats arrive at Assumption, after a voyage of two or three months. Near it is a lake, remarkable for having a very elevated rock, 600 feet high, in the middle of it, resembling an obelisk.

It was about the year 1810 that the Creoles first imbibed a taste for the principles of liberty. The new government of Buenos Ayres had despatched an expedition for the purpose of vindicating its authority, and deposing the governor of Paraguay. To oppose it, the Paraguarians collected an army of 6,000 men, and finally succeeded in expelling the intruders from their province. During their stay, however, the Buenos Ayres general, Belgrano, was busily infusing notions of independence into the minds of the Creole officers. Though unable to entertain any just opinions on the subject of liberty, they resolved during the year 1811 to unite and make common cause against the Spaniards, whom they had always detested. They boldly proceeded to the governor's house, which they entered, with pistols in their hands, and arrested him. No blood was shed; and the next morning beheld two of the conspirators united with him in the government, of which the first act was to call a congress. Subsequently a junta was appointed, which, without delay, declared the independence of the new republic. The ministry consisted of a president, two assessors, and a secretary, to which last office Doctor Francia was appointed. The history of the revolution of Paraguay is, in fact, nothing more than that of Doctor Francia himself. On the separation of the congress, after having appointed the junta, Doctor Francia became the soul of the new government. An adjustment was made with Buenos Ayres, but Francia's policy was inimical to a close alliance with any of the other states; and he soon showed that it was his resolution to isolate the country. In a succeeding congress he succeeded in getting himself appointed dictator for life; and in point of absolute authority, he is without a rival at this moment in the most despotic countries of Asia itself.

THE

CISPLATINE REPUBLIC;

OR

BANDA ORIENTAL.

After a long and mutually devastating struggle betwixt Brazil and Buenos Ayres, for the possession of Monte Video and the Banda Oriental, the dispute was terminated by treaty of the 27th August, 1828, declaring the entire independence of the debateable territory, and erecting the whole into a republic, of which the town of Monte Video is the capital.

The territory, called the *Banda Oriental*, is situated betwixt the southern parallels of 32° 10′ and 35°. The Spaniards gave it this appellation, signifying 'the Eastern frontier' or 'boundary,' because to them it bounded on the N. with Brazil or Portuguese America; while the Brazilians bestowed on it the appellation of *Cisplatina* on account of its lying N. of the Rio de la Plata. The river Uruguay divides this district into two parts, which are distinguished from each other as the *Banda Oriental* and *Banda Occidental*, or the Eastern and Western Banda. The latter country, however, is nominally, at least, incorporated with the republic of Buenos Ayres, forming the provinces of *Entrerios* and *Corrientes*.

The southern frontier of the Banda Oriental stretches the length of 335 miles along the Rio de la Plata; on the E. it stretches along the Atlantic, for 240 miles, to the Rio Grande do Sul de San Pedro. The Brazilian territory bounds it on the N.; and the Uruguay on the W. Its superficies may be estimated at 10,500 geographical square miles; and its population at 175,000 souls, chiefly of Spanish descent. The principal mountains are, the *Cochilla Grande de los Tapes*, and a part of the *Serra do Mar;* the principal river is the *Rio Negro*, a tributary of the Uruguay. Its capital, *Monte Video*, is situated on the N. bank of the La Plata, near the mouth, in 34° 54′ 48″ S. lat. Its port is good, and its environs fertile; its population, in 1822, was 16,000 souls.

When the Spanish provinces threw off the yoke of the mother-country, the court of Rio de Janeiro, taking advantage of some alleged incursions made on its territory by Artigas and other chiefs, seized on the town of Monte Video, and occupied the left banks of the Rio de la Plata and Uruguay. Against this proceeding the Buenos Ayreans protested, and after a long and disastrous siege, they succeeded in recovering Monte Video in 1814. In 1821 the Brazilians retook it, and the better to preserve it from again falling into the hands of the republicans, they forthwith declared it to be an independent republic, federatively allied to Brazil. This arrangement, of course, dissatisfied the Buenos Ayreans, who immediately blockaded the town from the land side, and betwixt its two belligerent protectors, Monte Video was threatened with utter destruction, until the above-mentioned treaty was concluded, by which its complete independence of either party was expressly stipulated.

CHILI.

Boundaries and Extent.] Chili is bounded on the N. by the district of Attacames, belonging to Buenos Ayres, and which separates it from Peru; on the E. by the Andes, which, in their whole meridional extent, separate it from the Buenos Ayres, and from several tribes of unconquered savages; on the S. by Araucania, and a tract of mountains and barren wilds, and a narrow strait which separates the main land from the island of Chiloe and its dependent isles, and on the W. by the Pacific Ocean. Within these bounds, Chili stretches in a direct line 17 degrees of latitude, or 1020 geographical miles, equal to 1180 British miles, namely, from the 24th to the 41st degree of south latitude, or to the 43d degree if the whole Chilian archipelago is included. But the meridional extent is actually 1260 British miles between its remotest extremities, and making allowance for the declination from a straight line. Its breadth is various, being determined by the greater or less distance of the Andes from the sea. Between the parallels of 24° and 32°, its breadth varies from 120 to 180 British miles; from that to the 37th degree, it is about 210 British miles; and its greatest breadth, from thence to the archipelago of Chiloe, does not exceed 230 British miles. Molina estimates its length from north to south at 1260 geographical miles, or 1450 British miles, by 300 British miles of medial breadth; and its superficies at 378,000 geographical square miles, or 522,000 British square miles, a prodigious exaggeration, even though both sides of the Andes, Araucania, and the Puelches, their eastern neighbours, should be included. In both Ovalle's and Molina's maps of Chili, the large province of Cuyo, or Mendoza, is included; but this large district now belongs to the Buenos Ayres republic. The fact is, that Chili is merely a long narrow stripe of territory, comprehending the Andes and the coast, and its whole superficies will not amount to one half of Molina's estimate, followed by Pinkerton and others. The whole superficies has been accurately calculated by Mr Oltmanns, and found not to exceed 22,574 square leagues of 25 to the degree, or 173,000 British square miles, exclusive of Araucania, and other districts inhabited by independent Indians, from the 37th to the 41st degree of S. lat.; which, at an average of 200 British miles in breadth, cannot exceed 78,000 square miles, making a total of 250,000 British square miles and upwards.

Divisions, Natural and Political.] Chili is a plain of vast extent from N. to S., rising gradually from the sea as it approaches the Andes on the E. This sloping plain is intersected, watered, and fertilized, by innumerable streams, or to speak more correctly, torrents descending westward from the bounding ridges of the Cordilleras. The natural divisions of Chili are three, namely: Chili proper—the Andes—and the islands. Chili proper, comprehended between the Andes and the sea, and measuring upwards of

100, and sometimes 150 miles in breadth, is divided into two equal portions, namely, the maritime and midland. Three chains of mountains, parallel to the Andes, intersect the maritime part. The midland portion is a plain nearly uniform, interspersed with a few solitary hills.—The Andine division, which belongs to Chili, and which comprises both sides of the chain, is of great breadth, frequently upwards of 120 British miles. This division contains a vast number of contiguous and very lofty mountains, exhibiting in its various and diversified scenery, whatever is wild, grand, beautiful, and picturesque.—The islands belonging to Chili, are the *Coquembanes*, *Mugillon*, *Toloral*, and *Pajora*, which remain desert; *Carama*, merely a rock; the two islands of *Juan Fernandez*, denominated *Isola de Tierra*, or Shore-island, and *Masafuera*, which is the largest, and inhabited by a few Spaniards; *Quirequina* and *Talca*, near Conception; *Mocha*, on the coast of Araucania, upwards of 60 miles in circumference, handsome and fertile, but abandoned by the Spaniards; and the archipelago of *Chiloe*, which, with that of *Chounes*, dependant on it, which comprehends 82 islands, some of which are occupied by Spaniards and Indians; Chiloe, the largest of these, gives name to the archipelago.—All these islands, with the exception of Juan Fernandez, are on the coast.

The political divisions of Chili are two, namely: *Spanish Chili*, and *Araucania*, or Independent Chili. Spanish Chili comprehends all the tract from the Rio Salado to the Biobio; and Araucania comprehends all the tract to the south of that stream. Spanish Chili, comprehending 13 degrees of latitude, or from the 24th to the 37th degree of S. lat., was formerly divided into the thirteen following provinces, namely:

PROVINCES.	*Length in leagues from N. to S.*	*Breadth in leagues from E. to W.*	CAPITALS.	*S. Latitudes.*	*W. longitudes.*
Copiapo,	100	70	Copiapo,	27° 10′	71° 5′ 15″
Coquimbo,	70	45	Coquimbo,	29° 54′ 40″	71° 19′ 15″
Quillota,	25	21	Quillota,	32° 42′	71°
Aconcagua,	75	75	Aconcagua,	32° 18′	69° 55′
Melipilla,	11	23	Melipilla,	33° 36′	70° 42
Santiago,	11	20	Santiago,	33° 16′	69° 48′
Rancagua,	40	13	Rancagua,	34° 18	70° 16′
Calchagua,	43	15	San Fernando,	34° 36′	70° 34′
Mauli,	44	48	San Augustin,	35° 18′	70° 48
Itata,	11	23	Nombre de Jesus,	35° 58′	72° 38′
Chillan,	12	25	San Bartholomew,	35° 54′	71° 30
Puchacay,	12	25	Conception,	36° 49 10″	73° 5″
Huilquilimu,	12	25	Huilquilimu.		

It is now divided into 3 intendencies, namely: *La Conception, Coquimbo* and *Santiago*; and these are subdivided into 22 districts.

CHAP. I.—HISTORY.

The Peruvians conquered some of the northern districts of Chili; and, when the Spaniards became masters of Peru, they received from the Incas those parts of it which owned their authority. Almagro, who had assisted Pizarro in the conquest of Peru, advanced with an army into Chili; but, before he had proceeded far, he was obliged to return to defend his rights against Pizarro, who was usurping the sole power of the Peruvian dominions. During the civil wars in Peru, Almagro lost his life, and Pizarro, in the year 1540, despatched Valdivia, or Baldivia, against Chili, to extend the empire on that side, and to make himself master of the riches said to be in the possession of the Chilesians. Valdivia no sooner arrived on the frontiers, than he was opposed by several of the caciques or chiefs, who encountered him with great bravery, but were unable to prevent him from advancing to the valley of Mapocho. In this valley, which was extremely fertile and populous, he founded a city which he called Santiago; and in the neighbourhood of this city were several gold mines in which he forced the natives to work. The haughty Chilesians, to whom liberty had already been endeared, could not patiently submit to such oppression; before the city was finished, they attacked the Spaniards, and were with difficulty repulsed; but having, afterwards, by a false report of rich mines to be found at a small distance, drawn a party of Spaniards into an ambuscade, the whole were cut off, except their commander and a negro, who escaped only by the speed of their horses. When the civil wars broke out in Peru, Valdivia was recalled, and, dissensions having taken place between the lieutenants whom he had left to govern in his absence, the Indians took this advantage of again attacking the Spaniards, and were with difficulty prevented from destroying the new built city, till Valdivia arrived with fresh troops, attacked and obliged them to give way. Following his advantage, he overran a great part of the country, and founded the city of Conception, on a bay of the South sea; the city Imperial, on a plain at the confluence of two rivers; and Villarica, near the foot of the Andes.

The Indians plainly perceiving that the Spaniards intended to take possession of the whole country, and that they must either drive them from their usurpations, or become their slaves, having likewise become more familiar both with the arms and persons of their invaders, and ascertaining that, in spite of their artificial thunder, they were vulnerable like other mortals, resolved on a general insurrection. Intelligence of this movement having reached Valdivia, he immediately repaired to the valley of Araccea, which was inhabited by the most intrepid tribe of Chilesians, and where the Indians, though attacked sooner than they expected, had nevertheless assembled to the number of thirteen or fourteen thousand, under the command of Caupolican their brave countryman. Valdivia's troops forced them to retire, but could not disperse them, and, for several days, they maintained a kind of running fight. At length Caupolican, with a degree of military sagacity which would not have disgraced the most expert European, resolved to divide his army into bodies of 1000 each, and with them to attack the Spaniards alternately, so that when one body was fatigued, another might advance with unabated vigour, and prevent them from enjoying a moment's relaxation. This stratagem had the desired effect; the Spaniards withstood them seven or eight hours, but were at length obliged to give way; not a Spaniard was left alive, except Valdivia himself, who was made prisoner and reserved for a more dreadful death. In what manner the Indians killed him, or what tortures he experienced, is not agreed; some relate that melted gold was poured down his throat; others that a chief, exasperated at the offers he made to induce them to spare his life, beat out his brains with a club. But whatever was the mode of his death, we may be certain that the Indians would be little disposed to show lenity to one in whom their country had found so formidable an enemy. Valdivia's lieutenant, Villagra, being informed of the overthrow of the Spaniards, speedily collected the Spanish troops from different parts of the country, and, with several thousands of his Indian allies, marched to avenge his countryman's defeat. Caupolican again evinced his military skill; he retreated before the Spaniards, who followed him till they were advanced in the woods too far to make any use of their cavalry, when, putting out detachments to take possession of the passes in their rear, and, directing his men not to fight at a distance, but to rush immediately to close quarters, he advanced with fury to the attack, and again obtained a complete victory; 2,500 Spaniards and confederate Indians fell on the spot. Caupolican now advanced to the city of Conception, and, finding it abandoned, burnt it to the ground. This chief ultimately was taken by the Spaniards, and put to death. But the Chilesians, though they had lost their general, had not lost their courage, nor their hatred of their invaders. Hostilities continued fifty years with increasing fury and animosity, at the end of which period, the Indians had regained almost the whole of their country, taken many Spanish towns, put to death all the inhabitants except the women, and left to the Spaniards only a few narrow settlements along the coasts.

The Dutch, having learned that the Spaniards were abhorred by the Chilesians, and that they were nearly expelled from the country, despatched a considerable force under admiral Brewer, to endeavour to acquire the friendship of the Indians, and, after having assisted them in exterminating the Spaniards, to attempt, with the consent of the inhabitants, to form settlements in the country. The Chilesians, at first, believing the offer of the Dutch to be disinterested, joined their troops to the admiral's; but Brewer dying soon after, and the Dutch showing, in a short time, that they valued gold no less than the Spaniards, the natives refused any longer to co-operate with them. They were therefore obliged to abandon their attempt; and, since that period, the Spaniards have had only the natives to contend with, who still, for the most part, retain their freedom. An Araucanian ambassador constantly resided at Santiago during the dominion of Spain,—the only instance in the history of America, in which the equality of the native race was recognized by European settlers.

In the recent commotions of Spanish America, Chili had its share. At first, the revolution in favour of the independents in 1810, was effected without any interruption of the general tranquillity, and the government fell peaceably into the hands of the chief Creolian families. It was, however, afterwards brought under subjection by the royalists sent from Lima; but a detachment having been despatched to the aid of the inhabitants from Buenos Ayres, the royalists were defeated in the battle of Maypu, in 1818, and the country is at present in a state of absolute independence.

CHAP. II.—PHYSICAL FEATURES.

Mountains.] The grand belt of the Andes separates Chili from the viceroyalty of La Plata; and is of great breadth, being stated by Molina at 120 miles. The perpetual snow of these mountains renders them a sublime and interesting spectacle to the inhabitants of the plains. Between the 24th and 23d degrees of S. lat. the Andes are wholly desert; south of that parallel, they are studded with little vales and excellent pastures, delightfully watered with a superabundance of streams rolled down from their stupendous rocks and transverse ridges. There are about eight or nine passes leading over these mountains to the E.; the most frequented being that which leads from Aconcagua to Cuyo, a journey of eight days, like those over the Alps in Switzerland, on shelves in the perpendicular rocks hanging over the profound abysses, through which wind the rivers Chilli and Mendoza. Mules are used, but travellers are often obliged to proceed on foot. Some small plains are found, where the Incas, when they subdued Cuyo and Northern Chili, constructed little houses of stone.

The highest mountains of Chili are, *Manfla*, in S. lat. 28° 45′; *Tupungato*, 33° 24′; *Descabesado*, 35°; *Blanquillo*, 35° 4′; *Longavi*, 35° 30′; *Chillan*, 36°; and *Corcobado*, 43°. Molina had not an opportunity of taking the altitudes of the above mountains, but the Spaniards and Chilese suppose them to be upwards of 20,000 feet above the sea: the lowest part is in Copiapo. In Lentin's scale of the elevation of mountains, Descabesado is next to Chimborazo, and is equal to it in Molina's opinion.[1] But as Molina never saw Chimborazo, and Descabesado from his account seems to have been scaled, we must be allowed to demur at his opinion. In the parallel of 33°, if of the same elevation with Chimborazo, the cold on its summit must be much more severe, and it must also be covered with perpetual snow at a much lower elevation, and must therefore be far more difficult of ascent than its supposed rival. It has hitherto been found impossible for human foot to arrive at the summit of Chimborazo; and if Descabesado be of the same elevation, those who were so fortunate as to surmount its soaring summit, have accomplished a task much more arduous than that of a Condamine, a Humboldt, or a Saussure, and have attained the highest ground ever trodden by man. The summit is described as being flat, and forming a complete square, each side being six miles long, having in the middle a lake of extreme depth, which, as far as can be judged from present appearances, has been the crater of an ancient volcano. A number of marine shells, either petrified or calcined, and probably produced by water, have been observed. The elevated plain of *Uspallata*, 50 miles in length, and 6 miles in breadth, is surmounted by another plain, on which rise Andine summits of such altitude, as to be visible at San Luige, 360 miles distant, says Molina. The distance, however, on the map, is 245 miles, or 115 miles less. The elevation of these summits, however, must be prodigious, if really visible at such a distance. These enormous heights, which require a whole summer-day to pass them, are composed of black masses of indurated clay, in which are inchased many round and smooth pebbles bearing every appearance of having been rolled in water. The same surprising circumstance has been observed in the adjacent province of Cuyo. According to Molina, Chili presents every appearance of having been once covered with the ocean. Even on the summits of the loftiest Andine peaks, various marine substances have been found. The three parallel chains of maritime mountains, and the hills by which they are united to the Andes, in fact, all the ramifications of this great antediluvian chain, seem to have been formed successively by the waters of the ocean, or, in other words, to be of Neptunian origin. The interior structure of the Andes themselves, equal in antiquity to the globe itself, presents a very different origin. This majestic ridge rises rapidly, only forming a very small angle with its base; the ordinary form being pyramidal, surmounted at intervals by little elevations of a conical form, or small peaks, and as it were crystallized. Their internal structure consists of large primitive quartz, differing very little in their general configuration. Marine bodies are never found in these primitive rocks. The main ridge runs parallel with two other ridges of smaller elevation on either side, and at the distance of from 25 to 30 miles. On the exterior sides of these lateral ridges, are other ramifications of little height, and whose direction is not uniform.

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[1] In the above estimate of the elevation of the Chilian Andes, Molina flatly contradicts Ulloa, who maintained that their height was not above one-seventh of that of the Andes of Quito. As Ulloa never visited Chili, and consequently wrote either from mere report or unsupported conjecture, whereas Molina was a native of the province, and devoted his time and his talents to its history and description, his authority must be considered by every reasonable person as superior to that of Ulloa at least.

Volcanoes. &c.] Volcanoes abound in Chili. Of these, fourteen are in a state of perpetual combustion, and all of them belong to the main ridge of the Andes. Their names are the following, proceeding from north to south: *Copiapo, Coquimbo, Limari, Aconcagua, Santiago, Maypo, Peteroa, Chillan, Tucapel, Calloqui, Chinal, Chignal, Rancho, Huanauca.* The volcano of *Osorna,* is in the Andes of Araucania, or Independent Chili. The most violent of these volcanoes, is that of Peteroa, which, on the 3d of December 1762, opened a new crater, splitting into two parts, or contiguous mountains, for many miles. The tremendous noise was heard throughout Chili, but no earthquake followed. The ashes and lava filled the adjacent valleys, and caused an inundation for two days in the river Tiugerica. A fragment of a mountain falling on the great river Lontua, totally stopped its course for ten days, and the stagnated waters having formed a large lake, which still exists, finally opened a passage and inundated the neighbouring country. The lava and ashes of these volcanoes seldom or never fall without the limits of the Andes. Among the midland and maritime mountains, only two volcanoes are found: one near the mouth of the Rapel river, which is small, and emits at intervals a little smoke; the other is the great volcano of *Villarica,* clearly visible at 150 miles distance; it appears insulated, but is supposed to be joined at its base with the Andes, which are at a small distance from it. It lies near a lake of the same name, in Araucania; and the summit, which burns perpetually, is covered with eternal snows; but the sides, to the extent of 14 miles, are shaded with the most enchanting forests, clothed with unfading verdure, and watered by innumerable crystalline streams.

As volcanoes and earthquakes are generally connected, these latter are very frequent in Chili. There are two of its provinces, however, which would appear to be almost totally exempted from their destructive ravages, namely, Copiapo and Coquimbo. While other parts of Chili have been violently agitated by earthquakes, the shocks have been but slightly felt in these two provinces, although subterranean noises are often heard as in Tucuman. Slight earthquakes are felt three or four times a-year; but since the arrival of the Spaniards, there have been only five of any consequence to the year 1782, a period of 244 years; namely, those of 1570, 1647, 1657, 1730, and 1751. The two former were not productive of much mischief; the third overwhelmed a great part of Santiago; the fourth produced an inundation of the sea which beat down the walls of Conception; the fifth was immediately preceded by slight shocks and the appearance of a ball of fire darting from the Andes to the sea. It completely overwhelmed Conception, and destroyed all the fortresses and villages between the 34th and 40th degrees of S. lat. Its course was from N. to S.; and slight tremors, at intervals of 15 and 20 minutes, were felt for the space of a month after the earthquake. Only seven persons perished, there being always a warning noise, or vibration of the air; the shocks are not vertical, but horizontal.

Rivers and Lakes.] There are about 123 rivers in Chili, which discharge themselves by 52 mouths into the Pacific ocean. The principal of these are the *Mauli*, the *Biobio* (which is two miles broad), the *Cauten*, the *Tolten*, the *Valdivia* or *Callacalla*, the *Chivin*, the *Rio Bueno*, and the *Sinfondo*, which, with some others, are navigable for a considerable extent for ships of the line. Their courses are very rapid to the maritime mountains, where they are retarded by the nature of the ground. They swell to their greatest height about the end of September, when it has been remarked that some of them rise most in the morning, others at midday, and others towards evening. At no time, however, do they so much overflow their banks as to lay the adjacent country under water.

The lakes are of two kinds, salt and fresh. Of the former, are the lakes of *Bucalemu*, *Caguil*, and *Bojeruca*, situated in the marshes of the Spanish provinces. The latter belong to the inland provinces; they are the *Redaguel*, the *Aculeu*, and the *Taguatagua*, also the *Lauquen* and *Nahuelgapi* in Araucania; the former of which has a beautiful conical hill rising from its centre, and is the source of the river Tolten. The latter is 80 miles in circumference, and gives rise to a river of the same name, which falls into the Patagonian sea.

Climate and Seasons.] The climate of Chili is delightful and salubrious, and the four seasons are as regular as in Europe, though in an inversed order, being in the southern hemisphere. Spring commences on the 21st of September; summer on the 21st of December; autumn on the 21st of March; and winter at our summer-solstice, or 21st of June. From the commencement of spring to the middle of autumn, the sky is constantly serene between 24° and 36° S. lat., it being rare that rain falls during that period. The rains begin in the middle of April, and continue with greater or less intervals till the end of August. In the northern provinces of Copiapo and Coquimbo, little rain falls; but in the middle provinces, there are three or four days' rain alternating with fifteen or twenty dry days; and in the southern provinces, the rain sometimes continues nine or ten days uninterruptedly. In Copiapo and Coquimbo, the comparative want of rain is compensated by very copious dews. The transitions from heat to cold, and vice versa, are moderate, and their extremes are equally unknown. The air is so much cooled by sea-breezes on the one hand, and by the winds from the Andes on the other, that no one perspires in the shade. In the interior, where the heat is greatest, Reaumur's thermometer seldom exceeds 45°, and in winter it very rarely sinks below the freezing point. Snow, except on the Andes, is very uncommon; is entirely unknown on the coast; and though sometimes it falls in the middle districts, it often melts ere it reaches the ground, and is seldom known to lie above one day. On the Andes, however, from April to November—which is the rainy season on the plains—snows fall so abundantly, as to render the passes wholly impracticable for the greater part of the year. No river is ever frozen in Chili. Thunder is unknown, except amid the Andes. The winds, in Chili, are considered by the inhabitants, as infallible indications of the weather, and serve them as barometers. The southern winds, coming directly from the antarctic pole, are cold, attended with fair weather; the northern winds, on the contrary, are hot and humid; and, on the E. of the Andes are more suffocating than the Sirocco. The S.

wind prevails while the sun is in the southern hemisphere. It relaxes about noon, and is then supplanted for two or three hours by a fresh breeze from the sea, which, from its returning regularly, is called the meridian-breeze, and the clock of the peasants. In the afternoon, the south wind returns; and, at midnight, it is once more succeeded by the abovementioned breeze. The E. wind is seldom felt in Chili, and its history records only one hurricane. Fiery meteors are frequent, proceeding from the Andes to the sea. The *aurora australis* seldom appears. One of the largest of these phenomena happened in 1640, and remained visible from February to April.

Soil and Produce.] The soil of Chili is in nothing inferior to the climate. It is not, however, equally fertile in every part, but improves as we advance from the coast to the Andes. The valleys of the Andes are superior, in this respect, to the middle districts; and these latter excel the maritime tract. The soil of this last often resembles the fat land of Bologna, being of a reddish brown, friable, tender, mixed with a little clay or marl, and sometimes presenting white or brown pebbles, arsenical and martial pyrites, with shells, madripores, and other marine productions. That of the midland and Andine vales, is of a yellowish black, porous, friable, soft, often gravelly, and sprinkled with pyrites, flints, and decomposed marine bodies. Both of these soils are very deep, as may be observed in the water courses. The soil every where indicates the former presence of the sea; and Molina has produced proofs that it is still retiring. An extraordinary warmth every where pervades the soil, and brings to perfection those tropical fruits which are only indigenous in the torrid zone. The depth and richness of the vegetable mould, its great internal heat, and the innumerable crystalline streams which water the surface, render unnecessary the use of artificial manures; and experience has taught the husbandman of Chili, their being superfluous, if not injurious. The fermentation and putrefaction of manure, has been supposed to generate and multiply vermin destructive to grain in the blade. From these, Chili is entirely exempted; and it is alleged as a well known and established fact, that the lands of Santiago, though constantly cultivated and cropped for upwards of 250 years, without receiving any artificial manure, have suffered no diminution in their amazing produce. The soil of Chili, by a very moderate calculation, yields at an average, in the maritime districts, 45 for one; and in the middle, 65 for 1. There are even lands which produce 120 and 160 for 1; and according to some authors, there have been frequent instances of 300 fold: and maize is affirmed by Ovalle to produce 400 for 1; but this extraordinary increase has not been confirmed by later and more authentic information. The herbage, especially in the valleys of the Andes, is so tall and luxuriant, as wholly to conceal the sheep that pasture among it. In most places, it comes up to the horses' bellies, and is so thick that it is hard to ride through it. Many of the plants, and particularly nettles, are the same with those of Europe; and almost all the pot herbs and fruits of our continent flourish in Chili. Mustard, turnips, fennel, trefoil, cultivated in Europe, grow wild in Chili. The mustard-plants are as big as one's arm; and there are groves of them for many leagues, where they are taller than a man on horseback, and in which the birds build their nests. The northern parts produce even the sugar cane, the sweet potatoe, and other tropical fruits. Molina observed upwards of 3000 plants, not to be found in the botanical catalogues of his day. Maize, *magi*, a species of rice, and *tuca*, a kind of barley, were cultivated previous to the arrival of the Spaniards. Pease and potatoes were also well known to the Chilese. Of the latter they have 30 kinds. This plant is indigenous to America, and Bomare considers Chili as its native soil. Besides the thirty varieties there are two species. The large strawberry, or *quelgue* of Chili, frequently attains the enormous size of a hen's egg, or three inches in circumference. There are three kinds of it, the red, the white, and the yellow; and they grow wild for miles together. Many of the plants are valuable as dyes, and others as medicinal. The *relbun*, a species of madder, supplies a beautiful red; yellow is obtained from a species of agrimony; and green is furnished from the stalks of the *poquel*, a kind of cress. The berries of the *cullen* give violet; and a fine black is yielded from the root of the *pauke*, a perennial plant; which, besides its use as a dye, has likewise the properties of an excellent ink. A knowledge of medicinal plants, forms the whole medical science of the unconverted Chilese, who are careful to exclude all strangers from any participation in their accumulated existence. Without the advantage, however, of their desirable aid, there have been discovered nearly 200 medicinal herbs. Two kinds of tobacco are cultivated in Chili, the common and the little tobacco, of which the latter is by far the best. Of poisonous plants, there are three kinds which occasion madness in the animals that accidentally browse them, especially in horses. The *cullen* supplies the room of tea, and is an excellent vermifuge. The *jarilla* of Quillota is an excellent balsam for wounds; and the *palgui* is deemed superior to Peruvian bark, as a febrifuge. Incense, equal to that of Arabia the Happy, is produced by a shrub not above four feet high, distilling tears of a whitish yellow, and of a bitter aromatic taste, like the incense of the Levant. The trunk of the *puyi* supplies Chili with excellent corks. Seven kinds of beautiful myrtles are produced here, the fruit of one yielding an excellent stomachic wine, preferred by strangers to any muscatel. On the banks of the Maypo and Salvia, grows the *cassia sena*, equal to that in the Levant. The seeds of the *madi*, a new genus, supply an oil which has been preferred to any of the French olive oils. Three species of the *pimento* are used in seasoning. Besides these, and many other alimentary, medicinal, and aromatic herbs and shrubs, there is, in the province of Santiago, a particular kind of wild *basil*, from whose leaves are gathered by the inhabitants every morning, a kind of salt, which in taste far exceeds that in common use. Of climbing plants, the most remarkable is the *cogul*, which having reached the top of one tree, immediately commences a descent; and in a short time reaches the summit of another tree, whence it proceeds in a similar manner to a third; and has consequently been found to extend itself over a space of 200 yards. The stalk being tough and extremely pliable, it is used to make baskets and cables; and these latter are said to be more durable than those of hemp. The *popoi* is used for similar purposes in the archipelago of Chiloe, and supplies excellent ropes for the Periaguas. A species of grass, called *quila*, is used by the Araucanians for their lances; and the rush of Valdivia, which affords an excellent cane, is used for manufacturing cages, and serves the inhabitants as a covering for their houses.

The plains, vales, and mountains of Chili, abound in trees of unfading verdure and perpetual fragrance. Of 97 species already discovered, only 13 shed their leaves. In the Andine vallies are the *pellinos*, a species of oak, the pine, the cypress, with the red and white cedar. The red cedar is remarkable for its enormous dimensions, particularly in the archipelago of Chiloe, where a single tree will sometimes yield 700 planks, each 20 feet long. In other parts of Chili are found the mulberry, the chirimoya, and the tamarind; the theige, or Chilian willow, yielding manna, and whose bark is used as a febrifuge; the *molli:* the Peruvian *taper*, or cherry, whose thorns are eight inches long, and serve as knitting needles; the wild orange, which supplies excellent wood of a yellow colour; the *floriopondio*, remarkable for the beauty of its form and the ambery fragrance of its flowers, which, by uniting its branches at the top, forms a kind of spherical crown. A single tree of this species is sufficient to perfume a whole garden. The *canello*, or Winter's bark, held sacred by the Araucanians, who carry branches of it on religious occasions; and after concluding a peace, present them to the enemy as a token of reconciliation and friendship. The *carob*, remarkable for the extreme hardness of its thorns, which are sometimes employed instead of nails. The *maqui*, a species of cornel; and the *luma*, or lofty myrtle, attains the height of 40 feet, and is exported to Peru for the use of coachmakers. The *quillai*, a new genus, and named from the Chilian word *quilcan*, to wash. Its bark, when pulverized and sufficiently moistened, foams like soap, and supplies the domestic purposes of that substance, and is even more efficacious than it in washing clothes, but is apt to induce a yellowish tinge when applied to linens. The wood is so hard and tough, as to be used in place of metal for stirrups. The *lithi*, or caustic laurel: and the *bollen*, a maritime tree, highly poisonous; the buds, however, when reduced to powder, are used as a powerful emetic. The *maylen* is a beautiful evergreen, and affords a powerful antidote to the poison of the bollen. The *patagua* is a large tree, sometimes measuring 24 feet round the trunk; and is much valued for a small flower, in shape and smell resembling the lily.

In fruit trees, Chili is greatly inferior to the tropical countries of America. The principal of them are the cocoa nut, the *gnevin*, the *peheun*, the *peumo*, and the *lucuma*. The fruit of the Chilian cocoa nut does not exceed a walnut in size, and grows in bunches, containing sometimes a thousand nuts, and an excellent oil is extracted from the kernel. The fruit of the *peheun*, or Araucanian pine, attains the size of a man's head, and in taste resembles the chesnut. The kernels of the peumo serve as rosaries to the inhabitants, while the bark is employed for the double purpose of tanning and dying. The fruit of the lucuma in size and taste resembles the peach. All kinds of European fruits thrive admirably in this genial clime, as vines, apricots, figs, olives, quinces, peaches, pomegranates, oranges, lemons, citrons, almonds, dates, apples, pears, plums, cherries, melicotoons, &c. Cherries were not known here till 1616, when a young tree being brought hither from Spain, and much valued, cherry-trees were planted in almost every garden, where they increased so much that they were forced to transplant them to the fields, so many young plants springing from the roots, that they overstocked the gardens and left room for nothing else. They have vast orchards of apple trees, and the fruit so large and plentiful upon the branches, that the trees are bowed down almost to the ground, so that they are obliged to support the branches of these and other European fruit trees with poles. None sell any garden fruits here, but every one is free to step in and eat at his pleasure. Some of the apple-trees are as large as elms, and the pear-trees are still larger. The quinces are as large as a man's head. This abundance of fruit, with an equally superabundant variety of kitchen herbs, renders the mortification of fasting during lent scarcely to be perceived. Their wines are plentiful and generous, both white and red, and equal to the best in Europe. The vintage is in April and August. The grapes and bunches are much larger than those of the European vines, an individual bunch being often sufficient to fill a large basket, and large enough to feast a whole convent of monks. The trunks of the vines are in some places as thick as a man's body; and some of the wine, which is of a pale colour, is as warm in the stomach as brandy, and kills many of the natives who drink it immoderately.

Zoology.] Chili, though equal, if not superior in its agricultural productions to any part of Spanish America, is inferior both in the number and variety of its animals. The European cattle imported hither by the early settlers, have thriven admirably, and have improved both in size and in their peculiar qualities. The horses are strong, well-shaped, swift, sure-footed, and active. The ass, though greatly improved both in strength and size, is very seldom put to any use. It is found wild on the Andes, and is hunted for its skin. The mules are strong, sure-footed, and active. The horned cattle have undergone a more than ordinary improvement, and display different degrees of excellence, according to the richness of their pasture. The oxen of the midland provinces are larger than those of the maritime, and are excelled in their turn by those of the Andine valleys. They are yoked to the plough in pairs, and draw it by means of a rope passed through their horns. So numerous are the horned cattle, that the landholders commonly fatten 1000 head of them, either cows or oxen, and slaughter them at Christmas. The sheep breed twice a-year, and are equal to any in Spain. The breed has been crossed by the Puelches Indians, and the result is an animal considerably larger than a sheep. Its hair, which is often two feet in length, and somewhat curled, possesses all the softness of wool.

The quadrupeds peculiar to Chili amount to 36 species, according to Molina, and are much the same as in Peru. The vicuna, the chilihueque, and guanaco, have been described in our account of Peruvian animals. A more peculiar quadruped of Chili is the *huemul,* a singular species of wild horse, with all the forms of that noble animal, except that it divides the hoof. It has been seen near the straits of Magellan, and loves the inaccessible recesses of the Andes, where, more wild and swift than the vicuna, the chase becomes extremely difficult amidst the Andine steeps. Several kinds of dogs were known in Chili previous to the conquest, but differing, like all other American animals, from those of the old continent. The hippopotamus, or river-horse, differs from that of Africa, resembling a horse in size and shape, but with palmated feet. There are numerous species of seals; and those animals called sea-cows appear on the coast of Araucania. There is a species of ferret peculiar to Chili, and remarkable for its intolerable odour. Of the carnivorous animals, the *pagi,* or puma of Peru and Guiana, is the chief.

In the river is found the *copper,* a species of water rat, equal in size to an otter, and capable of domestication; and the quillino, a species of beaver, highly valued for the excellence of its fur. The sea contains a great number of *phocæ,* or sea-calves; besides the *chinchimin,* which, with a great external resemblance, possesses all the ferocious cruelty of a wild cat, and darts upon all who venture to approach. Reptiles are rare in Chili; but the sea produces 76 kinds of fish, all excellent and nutritive.

The species of land and aquatic birds amount to 135, while the sea-fowl are innumerable, so that on the shores the firmament is often darkened by their prodigious flights. Others retire in spring to the Andine forests to propagate, and on their return, in winter, they visit the plains; while those which haunt the snowy mountains become as white as in Europe. The beautiful flamingo decorates the river banks; and the humming bird hovers round the flowers in a rich effulgence of sunny hues. The American ostrich appears in great numbers, in the Andine valleys, and on the shores of the great lake of Nahuelgapi. In height it is equal to a man, the neck being 2 feet 8 inches long; the head is round, small, and crowned with feathers; the legs as long as the neck; feet with three anterior toes, and a short one behind. The wings are eight feet in extent, and black; the back of an ash colour, while the remainder of the body is white. Some are wholly white, others black; but such may be regarded as exceptions. In some respects the American ostrich differs from the African, but equals it in voracity; and the female lays in the sand from 40 to 60 eggs, each yielding about two pounds of excellent meat. The feathers are used for plumes, parasols, fans, &c. If there be any inferiority, it is on the side of the African. The condor has been already described.

Of singing birds, the *thinsu* stands incomparably and indisputably the first, both for the sweetness and variety of its music. In allusion to this latter property, it is called in Mexico the *centzontlatotle*, or the 'four hundred tongues.' Its song gives the idea of a great number of birds uniting their voices in the most perfect harmony. From its sprightly and active disposition, this bird cannot be reconciled to captivity, where it pines and dies. The *curu*, a species of thrush, besides its great powers of music and imitation, is remarkable for exhibiting occasionally a propensity to destroy smaller birds, in order to feast upon their brains. There are three species of the humming bird, all of the most dazzling splendour, and some of them extremely diminutive, the smallest weighing only two grains.

There are few reptiles in Chili, and these are the salt and fresh water turtles, lizards, frogs, toads, and a species of serpent not above three feet long, and perfectly harmless. Among the insects is the locust of Africa, an unpleasant, but seldom destructive guest; and the parrot butterfly is supremely beautiful. Bees abound in the southern provinces. It is remarked that there are no poisonous creatures in this salubrious and delightful climate, so that one may sleep in the woods or fields without the smallest danger. Though the province of Cuio, on the east of the dividing ridge, is pestered with bugs, yet none of that noisome vermin will live in Chili. We are told that the experiment was tried by a gentleman, who brought some of them in a box from Cuio with proper food; but they died as soon as they passed the mountains on the side of Chili, and arrived in the first valley.

CHAP. III.—MINERALOGY.

Chili is one of those countries where mineral productions are equally abundant with vegetable, and affords an exception to the general maxim that very fertile countries are deficient in minerals. It contains almost every kind of metal. All the argillaceous earths mentioned by Wallerius, excepting the Lemnian bole, are found here; with five sorts, added to the former descriptions by Molina himself. Of the metallic earths there are mountain blue, and green native ceruse, ore of zinc, with brown, yellow, and red ochres. Among the rocks are slate, hone, green talc, steatite, asbestos, amianthus, gold and silver mica. The talc commonly called Muscovy glass is found in plates of a great size and purity, and is used for windows.

Limestone, marble, and gypsum abound. Statuary marble, the black, the greenish, and yellow, appears; and two mountains in the districts of Mauli and Copiapo, are wholly composed of marble of different colours, disposed in regular strata from top to bottom, so as to appear most strikingly artificial. In the Andes are quarries of alabaster. Amethysts occur at almost every step in the crevices of rocks; and near Talca is a small hill, consisting almost entirely of that stone. There are coloured crystals resembling most of the precious stones; and the Andes produce pieces of rock crystal large enough to form columns six feet high. Of silicious stones, there are quartz and flint. Beautiful breccias, porphyries, and granites, occur in the Andes. Pyrites are very common, of which one species is auriferous, and called the Inca's stone. The bitumens are, asphaltum, petroleum, pit-coal in great abundance, and several kinds of jet. Amber is often thrown out by the sea on the coasts of Araucania and Chiloe. The small mountains of Copiapo consist almost entirely of a beautiful crystallized sulphur, so pure that it does not need refining. Of saline substances are blue, green, white, and mixed vitriol, sal ammoniac, with an excellent fossil salt, in the form of transparent cubes, crystallised and variously coloured. Several mountains of it occur in the Andes west of Copiapo and Coquimbo, and it is used by all the inhabitants in the vicinity. A semi-crystallized aluminous stone, employed in the process of dying, and similar to that of Talca, is obtained from the Andes.

Among the semi-metals are found arsenic, cobalt, bismuth, zinc, and antimony. Mercury, both virgin and cinnabar, is found in various parts of Chili. Of metals, Chili contains mines of lead, tin, copper, silver, and gold. The lead is of excellent quality, but is only used in the fusion of silver, and for a few domestic purposes. The mines of tin are still more neglected than those of lead, in spite of their abundance, and the excellence of the mineral. Iron is so abundant, that there are few streams which do not deposit a sandy ore of that metal. Copper-mines are numerous, and, like those of gold, are confined to no particular province. The most celebrated copper-mine is that of *Peyen*, in the country of the Puelches; but it has been long abandoned on account of the hostility of that tribe. It is said to have produced pieces of pure metal, from 50 to 100 lbs. weight, of a colour resembling pinchbeck, and containing, in most instances, more than an equal portion of gold. A mine equal in wealth to this has been lately opened in *Curico*. There are two kinds of it only at present wrought by the inhabitants, namely, the malleable copper, and the gray, or bell-metal, which, from its composition, colour, and brittleness, may be denominated a native bronze. The other kinds, though rich in metal, are difficult of separation, and therefore neglected. Of the malleable copper, those mines only are wrought whose ore gives half its weight in refined metal; and of this kind no less than 1000 mines are at present open between Copiapo and Coquimbo. Vast quantities of copper are used to be exported from Chili to Spain; Hall estimates their present produce at 60,000 quintals annually, value £160,000. It is chiefly exported to the East Indies and China.

While copper is so abundantly dispersed throughout the country, silver, on the contrary, is confined to the high and cold deserts of the Andes, where it is little wrought. The most valuable mines of this metal are those of *Santiago*, *Coquimbo*, *Copiapo*, and *Aconcagua*. In this last province is the mine of the *Cerro d'Uspallata*, situated 8 leagues N.W. of the city of Mendoza, the largest and formerly reckoned most productive of all the silver-mines in Chili; but when Schmidtmeyer visited it in 1820, he found neither habitant nor habitation; the strokes of the miners, he says, were not heard, and the mines, he believed, were totally abandoned.

Gold is much more abundant in Chili than silver, being found in all parts of the country, in every precipice and mountain, as well as in the sands of its numerous rivers. The principal gold-mines are those of *Copiapo*, *Guasco*, *Coquimbo*, *Petorca*, *Ligua*, *Tiltil*, *Putaendo*, *Caren*, *Alhue*, *Yapel* or *Villa de Cuscus' Llaoin*, *Chibato*, and *Huillipatagua*. Though, in Chili, gold is found united with almost every kind of earth and stone, yet its usual matrix is a red clay stone, extremely brittle. Independent of the mines, great quantities of gold are obtained by washing the sands of rivers, which sometimes yield solid lumps of a pound weight. This operation is generally performed by individuals of the poorer class, who are unable to afford the expense of mining. In the southern provinces, between the Biobio and the archipelago of Chiloe, were discovered many excellent gold-mines, from which the Spaniards derived immense sums. They had erected a mint at Valdivia, and another at Osorno; but the Araucanians having expelled the Spaniards by force of arms, closed all these mines, avowing an extreme contempt for that precious metal, as the source of infamous cruelty, unmanly avarice, and degrading servitude. The famous mine of *Peldehue*, near Santiago, has been lost by the intrusion of water. This mine yielded daily 3000 crowns of gold. The gold of Chili is celebrated as the purest in the world, being generally found of 22 carats, and sometimes of 23½ carats; 24 carats being the standard of pure and unalloyed gold. There has no correct estimate yet appeared of the quantity of gold collected annually. The amount of that which paid the royal fifth was estimated by some at 4,000,000 dollars, or £900,000 sterling annually; and a very great quantity besides—amounting, according to Ulloa, in the proportion of two to three—was smuggled. Of this 4,000,000 dollars annual produce, 1,400,000 dollars were annually coined at Santiago; the rest being exported in bullion, or melted into church-plate and vessels for domestic use. According to Helms, the whole amount of the coinage, both of gold and silver, at Santiago, amounted only to 867,886 dollars in 1790. According to Humboldt, the annual produce of gold paying the royal fifth, was only 10,000 marks fine gold, at 145$\frac{82}{100}$ dollars per mark, and 29,700 marks of fine silver, at 9$\frac{4}{10}$ dollars per mark; or a total of 1,737,380 dollars, or £390,910 : 10*s.* sterling: and allowing one-fourth of the annual produce to be smuggled, he makes the whole annual quantity of gold and silver produced from the Chilese mines, and *lavaderos* or washing places, to amount to 12,250 marks of the former, and 29,700 marks of the latter; value in Spanish money, 2,060,000 dollars, and in British money, £463,500 sterling. This statement of the annual metallic produce given by Humboldt, is prodigiously below that given by Pinkerton and others, with whom the amount of the gold alone—even independent of the quantity smuggled, and of the silver—is almost double that of all the gold and silver raised in Chili, as given by Humboldt, whether carried to the mint or smuggled! As it is impossible, for want of sufficient information, to determine which of these statements is correct, the reader must be left to form his own opinion on this part of the subject. Humboldt estimates the whole quantity of the precious metals extracted from the mines of Chili, up till 1803, including fraudulent exportation, at 138,000,000 dollars, or £31,050,000 sterling.

CHAP. IV.—POPULATION AND INHABITANTS—RELIGION—LITERATURE.

The population of Chili consists principally of Spaniards, Indians, and Mestizoes, besides a few French, English, Irish, Italians, and some negroes. Besides these there are the independent Indians, as the Araucanians, Puelches, Cunches, and Huilliches. We have no positive information as to the number of inhabitants, nor any sufficient data by which to compute it. Accurate and minute as Molina has shown himself in almost every particular respecting his native country, he has given no estimate of its population, but affirms merely that it has rapidly increased ever since the passage by Cape Horn was frequented by navigators. According to Don Cosme Bueno quoted by Robertson, and who wrote an account of Peru, in 1764 the population of Chili was only 240,000. As Humboldt classes the population of Chili along with that of Peru, making both amount to 1,700,000 persons, we cannot determine from this statement the proportionate population of each. The reviewer of Humboldt's political essay on New Spain, in the Edinburgh Critical Journal, makes the present population of Chili amount to 720,000 persons, including 70,000 Araucanians, or independent Indians, stating, at the same time, that this estimate is founded on recent and good information. In some of the Spanish periodicals the population of Chili is estimated at 500,000. At any rate, whether the population as above given be above or below the truth, Chili is very far from being stocked with inhabitants proportioned to its extent; and the Indian population has been retarded, if not diminished, by the immoderate use of spirituous liquors. What proportion the different casts of Spaniards, Creoles, and Mestizoes bear to each other, is not accurately known. The celebrated Araucanians may be considered as the genuine representatives of the ancient Chilese.

Character, Manners, and Customs.] The Creoles of Chili are said to be brave, active, and enterprising, frank in their manners, and of the strictest honour. Hospitality is an essential constituent in their disposition. As there are but few inns in the country, their houses are at all times open to strangers and travellers, who are entertained with a degree of kindness and liberality almost unequalled among any other people. The Negroes are wholly employed in domestic services, and treated with a degree of tenderness and humanity that greatly alleviates their servitude. They are protected from any extreme cruelty on the part of their masters, by a law permitting the slave to demand and obliging the master to grant a letter of sale, by which the former is authorized to seek a purchaser. If, by his industry and good conduct, the negro has acquired a sum of money sufficient to purchase a substitute, his master must receive it, and set him at liberty. A law too has recently been promulgated, declaring that no slaves can henceforth be born in Chili, so that slavery may be regarded as virtually abolished in this fine country. The peasants of Creolian descent are bold and dexterous horsemen, and almost always in the saddle. They are amazingly expert in the use of the *lasso.*[1] The wealthier class of the men generally dress in the French fashion; and the women, in that of Peru: but the Chilese ladies wear longer gowns, and have a more modest air.

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[1] "The unerring precision with which the lasso is thrown is perfectly astonishing," says Captain Hall; "and to one who sees it for the first time, has a very magical appearance. Even when standing still, it is by no means an easy thing to throw the lasso; but the difficulty is vastly increased when it comes to be used on horseback, and at a gallop; and when, in addition, the rider has to pass over uneven ground, and to leap

No contagious disorders were ever experienced in Chili, till the arrival of the Spaniards, when the small-pox was first introduced, and raged in some provinces with the fury of a pestilence. Since that period, the Indians have contrived to save themselves from its ravages. When one is

hedges and ditches in his course: yet such is the dexterity of the Guassos, that they are not only sure of catching the animal they are in chase of, but can fix, or, as they term it, place the lasso on any particular part they please; over the horns, round the neck, or the body, or they can include all the four legs, or two, or any one of the four, and the whole with such ease and certainty, that it is necessary to witness the feat to have a just conception of the skill displayed. If a wild bull is to be caught, and two mounted horsemen, or Guassos, undertake to kill it, as soon as they discover him, they grasp the coil in the left hand, prepare the noose in the right, and dash off at full gallop, each swinging his lasso round his head. The first who comes within reach, aims at the bull's horns, and when he sees, which he does in an instant, that the lasso will take effect, he stops his horse and turns it half round, the bull continuing his course till the whole lasso of 15 or 20 yards in length has run out from the Guasso's hand. The horse, meanwhile, knowing by experience what is going to happen, leans over, as much as he can, in the opposite direction from the bull, and stands in trembling expectation of the violent tug which is given by the bull when he is brought up by the lasso. So great indeed is the jerk which takes place at this moment, that, were not the horse to lean over, he would certainly be overturned; but standing as he does, with his feet planted firmly on the ground, he offers sufficient resistance to stop the bull as instantaneously as if he had been shot, though at full speed; and in some cases the check is so abrupt and violent, that the animal is not only dashed to the ground, but rolls along at the full stretch of the lasso; while the horse, drawn sideways, ploughs up the earth with his feet for several yards. This, which takes so long to describe, is the work of a few seconds, during which the other horseman gallops past, and before the bull has time to recover from the shock, places the lasso over the horns, and continues advancing till it also is at the full stretch. The bull, stupified by the fall, sometimes lies motionless on the ground; but the horsemen soon rouse him up, by tugging him to and fro. When on his legs, he is like a ship moored with two cables; and however unwilling he may be to accompany the horsemen, or however great his struggles, he is irresistibly dragged along by them in whatever direction they please. If the intention be to kill the animal for the sake of the hide and tallow alone, as is often the case, one of the Guassos dismounts, and running in, cuts the bull's hamstrings with a long knife which he always wears in his girdle, and instantly afterwards despatches him by a dexterous cut across the back of the neck. The most surprising thing is, the manner in which the horse, after being left by his rider, manages to preserve the lasso always tight; this would be less difficult if the bull would remain steady, but it sometimes happens that he makes violent struggles to disentangle himself from the lassos, rushing backwards and forwards in a furious manner; the horse, however, with wonderful sagacity, alters his place and prances about, as if conscious of what he is doing, so as to resist every movement of the bull, and never allowing the lasso to be relaxed for a moment. When a wild horse is to be taken, the lasso is always placed round the two hind legs; and as the Guasso rides a little on one side, the jerk pulls the horse's feet laterally, so as to throw him on his side, without endangering his knees or his face. Before the horse can recover the shock, the rider dismounts, and, snatching his poncho or cloak from his shoulders, wraps it round the prostrate animal's head; he then forces into his mouth one of the powerful bridles of the country, straps a saddle on his back, and, bestriding him, removes the poncho; upon which the astonished horse springs on his legs, and endeavours, by a thousand vain efforts, to disencumber himself of his new master, who sits composedly on his back, and, by a discipline which never fails, reduces the horse to such complete obedience, that he is soon trained to lend his speed and strength in the capture of his wild companions. During the recent wars in this country, the lasso was used as a weapon of great power in the hands of the Guassos, who made bold and useful troops, and never failed to dismount cavalry, or to throw down the horses of those who came within their reach. There is a well-authenticated story of a party of eight or ten of these men, who had never seen a piece of artillery till one was fired at them in the streets of Buenos Ayres: they galloped fearlessly up to it, placed their lassos over the cannon, and, by their united strength, fairly overturned it. Another anecdote is related of them, which, though possible, does not rest on such good authority. A number of armed boats were sent to effect a landing at a certain point on the *coast, guarded only by these horsemen.* The party in the boats caring little for an enemy *unprovided with fire-arms, rowed confidently along* the shore. The Guassos, meantime, *were watching their opportunity, and the moment the boats came sufficiently near, dashed into the water, and, throwing their lassos round the necks of the officers, fairly dragged every one of them out of the boats."*

suspected of having, from intercourse with the Spaniards, caught the infection, they immediately set fire to his hut by means of flaming arrows; and thus, by the violent sacrifice of an individual, arrest the progress of a distemper, which, if at first neglected, might eventually depopulate their provinces. Inoculation was introduced in 1761. Chili is entirely exempted from many diseases peculiar to warm climates, as the leprosy, the Siam fever, and black vomit. The rickets, hydrophobia, tertian and quartan agues, are unknown here; and the most formidable disease to which the Chilese are exposed, is a violent fever, termed *chacao longo*, or the disorder of the head, from its being accompanied with delirium.

Religion.] Here, as in other provinces of Spanish America, the Roman Catholic alone was recognised, to the exclusion of every other, until the revolution introduced toleration. Among the numerous orders of the Romish church, only five have succeeded in obtaining permanent establishments. The monks of the order of mercy accompanied Valdivia from Peru. The Dominicans and Franciscans followed shortly after. The Augustinians procured admission in 1595; and the brothers of St John of God, in 1615. The three first orders form separate jurisdictions. The Jesuits had established themselves in 1593, but upon the dissolution of the order they were expelled Chili. Before the revolution, the two bishoprics of Santiago and Conception were suffragans of the archbishop of Lima. These two bishoprics comprehended, under their spiritual regime, the whole of Chili, besides the province of Cuyo; the former having Cuyo and all the tract between Peru and the river Mauli; and the latter, the rest of Chili, with the islands. The inhabitants of this latter jurisdiction are however chiefly pagans. The cathedrals are served by monks; and the accursed order of the inquisition had its seat at Santiago, subordinate to the higher court at Lima; but this institution is happily now annihilated here.

Language.] There are two spoken languages in Chili, the Spanish, or that of the conquerors, and the Araucan Moluche, or Chilese, spoken by the natives and the independent tribes. The latter language is totally different from all other American languages, both in its words and in its syntax. The rules of its composition are simple and precise, and the theory of the language may be learned with the greatest facility. There is not in its whole vocabulary, as given by Molina, a single irregular verb or noun. Rhetoric and poetry are cultivated among the Araucanians. Boys are brought to their public assemblies to hear speeches, and to learn to speak in public. The style of the orators is highly figurative and allegorical, and abounds in idioms not used on other occasions, hence it is called *coyaglucan*, which Molina translates the parliamentary style. Apologues and parables are frequent. Their poets are denominated *genpin*, or masters of speech, because they use o create words, as their enthusiasm dictates. Strong and lively images, bold figures, frequent allusions and similes, novelty and force of expression, pathetic sentiments, concur to form their poetry, which mostly repeats the deeds of their heroes. The lines are of eight or eleven syllables, metres which seem always to please the ear. Their poems are all in blank verse, though rhyme is sometimes admitted at very distant intervals.

Literature.] From the scarcity of scientific and literary productions, the want of instruments, and the enormous expense of printing, knowledge has long been kept at a very low ebb in Chili. None of the mechanical arts, except those of carpentry and the working of metals, have made any progress; but the activity of the new regime will, it is hoped, communicate a salutary impulse to letters and arts in this valuable country. Already there are 5 or 6 newspapers published in Santiago.

CHAP. V.—GOVERNMENT.

Spanish Chili, previous to the revolution, was under a military government, having been engaged since the conquest, in almost incessant wars with the bold and unconquerable Araucanians and their confederates. The governor was usually an officer of merit, and of the rank of lieutenant-general, who had title of president, governor, and captain-general of the kingdom of Chili, and resided in the capital of Santiago. Chili now forms a republic represented by a congress.

The military forces maintained in Chili by the king of Spain, originally amounted to 2000 men, which number was afterwards reduced to 500 men, besides a regular city and country militia. The forces of the republic amount to 8,000 men.

In 1746, the revenue was insufficient to maintain the regular force, though not exceeding 500 men; it was subsequently greatly increased, but not a single dollar of it went to Spain, being wholly absorbed in the expenses of the administration. The present revenue of the republic is about £600,000, while its debt amounts to £7,000,000.

Commerce.] This fertile and opulent country carries on its foreign commerce with Peru, Buenos Ayres, the East Indies, and Europe. In 1793, the commerce with Peru was conducted by 23 vessels, each of 600 tons. A great portion of this commerce is in agricultural productions, which are exported from the three convenient outlets of Valparaiso, Conception, and Coquimbo. The coasting vessels perform the voyage to Callao three times a-year, three months sufficing for each; while during three months they are moored in the road of Callao. In return for her agricultural products, Chili receives European goods, sugar, cloths of home manufacture, flax, rice, chocolate, &c.; and the balance used to be in favour of Chili. The exports of Buenos Ayres are linen and woollen stuffs, partly imported from Peru and partly of home manufacture; ponchos, sugar, snuff, wine, and brandy; and the returns are chiefly wax, Paraguay tea, and negroes. The exports to Spain in 1793 amounted to 656,000 dollars in gold, and 244,000 dollars of silver, total, 900,000 dollars, or £202,500 sterling, and a small quantity of vicuna wool. The returns from Spain were European goods to the value of 1,000,000 dollars, or £225,000 sterling. The balance in both cases being against Chili. In 1818 the exports from Great Britain to Valparaiso were valued at only £100,000; in 1821 they had risen to nearly £1,000,000; and in 1828 their declared value was £709,371.

The trade with the Araucanians consists in supplying them with edge tools, toys, and wine; for which they give horses, horned cattle, and sometimes even children. The manner of conducting the exchange is the following, as described by Ulloa:—The Spaniard begins his negotiation, by offering the head of the family a cup of wine; after which he displays his wares, that the Indian may make choice of what best pleases him, mentioning at the same time the return which he expects. If they agree, the Spaniard makes him a present of a little wine; and the Indian chief informs the community, that they are at liberty to trade with the Spaniard as his friend. Relying on this protection, the Spaniard goes from hut to hut, recommending himself at first by giving the head of every family a taste of his wine. After this, they commence business: and the Indian having taken what he wanted, the trader goes away without receiving any equivalent at that time, and visits the other huts as they lie dispersed all over the country. He then returns to the cottage of the chief, calling on his customers in his way, and acquainting them that he is on his return home. Upon this summons not one fails of bringing to the chief's hut whatever had been agreed upon. Here they take their leave of him with all the appearance of sincere friendship; and the chief even orders some Indians to escort him to the frontiers, and assist him in driving the cattle he has received in exchange for his goods.

CHAP. VI.—CHIEF CITIES.

Santiago.] The chief city, or capital of Chili, is Santiago, finely situated on a large beautiful plain, 24 leagues in extent, watered by the Mapocho, a tributary stream of the Lampa. It stands on the left bank of the river, 90 leagues from the sea, and 20 leagues from the main ridge of the Andes. It was founded in 1541, by Pedro de Valdivia. The river is employed in watering its numerous gardens; and is conveyed through the streets by means of conduits. The principal suburbs lie on the opposite, or right bank of the river, and a fine bridge connects them with the city. The houses of Santiago—though very low, being generally but one story high—are rather handsome and convenient. The cathedral is a building 384 feet long, planned by two English architects, but finished by Indians, their pupils. An extensive inland commerce is carried on between this city and Buenos Ayres, though 354 leagues, or 1,062 road miles distant. Although about 40 leagues of the road are amidst the snows and precipices of the Andes, yet it is found safer and cheaper to send goods by this road than by the circuitous passage round Cape Horn. The population in 1770 amounted to 46,000 souls; it is now estimated at 60,000 by some, and by Schmidtmeyer at 40,000. "The city of Santiago, as well as the other towns in Chili, are constructed in such a manner as to prepare them for the rude shocks given by the earthquakes, which are of frequent and sometimes tremendous occurrence. The streets are so wide as to afford security to the inhabitants in the middle of them, when their houses are shaken down by the dreadful convulsion. The walls are formed of unburnt bricks, or rather cakes of clay dried in the sun, about 4 inches thick, from 15 to 18 long, and from 9 to 12 broad; these are cemented by the same substance in a more moist state, and usually plastered within with the same earth. The houses rarely have more than a ground floor, and are covered sometimes with tiles, but more commonly *with thatch,* and the latter is plastered over with a coating of clay. Almost every one has a *garden as a place of refuge from earthquakes,* and the trees in these growing higher than the roofs of the houses, give to Santiago, at a distance, and even when entering its streets, more the appearance of a wood than of a city. The inferior dwellings are sheds, built on posts, with either branches or reeds interwoven. Such are the buildings in the few towns. In the country, the owners of a farm or of cattle have long single-floored ranges, constructed like those of the towns, whilst the peasantry have mere cages of cane not better nor more sheltered from the weather than a building would be in England if twelve hurdles were set on end, forming a square, and covered over with others. So little is wet regarded, that the peasantry usually take off their clothes when it rains, justifying the practice by saying, 'the skin dries quicker than cloth.'"

Conception.] Conception, or *Penco,* sometimes also called *La Mocha,* was founded by Valdivia, in 1550. Having been twice overwhelmed by an earthquake, accompanied by an inundation of the sea, its former situation was abandoned for the present, as being more secure; and the city was rebuilt in 1764, at a league distance from the shore. This city has been frequently taken and burnt by the Araucanians, who assaulted it even so recently as 1823. Its environs are fertile; and the bay is the largest on the coast of Chili, having two entrances formed by the island of Quiriquina at its mouth. The population is estimated at 10,000 souls. Its best port is that of *Talcaguana.* It is about 240 miles N. of Valdivia, and 280 S.S.W. of Santiago.

Coquimbo.] Coquimbo is situated at nearly a mile's distance from the shore, in S. lat. 29° 54′ 40″, upon a range of elevated ground, commanding a delightful view of the Pacific. This town was founded by Valdivia, in 1544, and contains a population of about 8,000 Spaniards, people of colour, and Indians. The streets are built in straight lines; and the houses are disjoined from each other by large gardens, which are well supplied with water brought by aqueducts from the river. Besides the cathedral, it contains several convents, and a college formerly belonging to the Jesuits. Its port, at the mouth of the Coquimbo, is convenient and well-frequented. It has been several times injured by earthquakes, especially in 1820 and 1822. The amount of British tonnage trading with this port, in 1828, was 2,234 tons.

Valparaiso.] Valparaiso is the principal emporium of all Chili, from whence all the commerce with Peru is carried on. It is about 105 miles direct distance from Santiago, of which it is the port. The city itself lies about 3 miles from the harbour; but there is another town, called *Almendral,* close upon the harbour, inhabited by those employed about the shipping. The harbour is capacious, and sufficient to contain large vessels up to the shore; it is defended by a fort. The British shipping trading with this port in 1828 consisted of 69 vessels, whose tonnage was 13,869 tons. Mr Graham states the population of this city at 15,000 souls; while Schmidtmeyer calculates it at only 3,500!

Valdivia.] Valdivia, or *Baldivia,* is situated on the shores of Araucania, or independent Chili, between the rivers Callacallas and Portero. It was built in 1551, by the Spanish chief, from whom it derives its name; and is defended by a strong castle. It has been repeatedly taken and burnt by the Araucanians; and was captured by the Dutch, in 1643, who were compelled to abandon it from famine and sickness. Baldivia contains about 2,000 inhabitants; the whole country round is in complete possession of the Araucanians. Valdivia was held by the Spanish government at a considerable expense. Being a close port, all foreign commerce was prohibited, and the few taxes collected in the whole province never exceeded 500 dollars, while the remittances from the royal treasuries of Lima and Santiago for the support of the colony, amounted, in 1646, to 28,280 dollars, and in 1807 had increased to 159,439. In 1813 the inhabitants issued a declaration of independence. They, however, restored the old government in the year following, and submitted to it until Valdivia was taken by Lord Cochrane, and the province incorporated with the republic of Chili.

Osorno.] Osorno, 88 miles S. of Valdivia, is the most important military station which the Spaniards possess in Araucania, and has been repeatedly burnt and plundered by the Araucanians. This city, with its territory, was restored, according to Estalla, in 1794, by the Araucanians, in consequence of a treaty with the governor of Baldivia.

CHAP. VII.—ARAUCANIA.

VERY little is yet known of Araucania. Mr Stevenson informs us, that what Robertson says in praise of the Chilians must be wholly ascribed to the Araucanians, to avoid the confusion which would be created were we to consider the present inhabitants of Chili as the persons spoken of by that author. The settlements originally formed by the Spaniards in the Araucanian territory were successively destroyed by the natives, who have ever offered a most determined resistance to any attempts on their independence; insomuch so, that during the revolutionary war the greater part of them joined the Spaniards against the Creoles, or Patriot forces, whom they were easily taught to look upon as aggressors. The tract of country, which may be properly called Araucania, extends from the river Bio-bio, in 36° 44′ S. lat., to the plain of Valdivia, in 30° 38′. The cordilleras form the eastern limit, and the Pacific the western. The manners of the Araucanian Indians are highly warlike. "They are prompt," says Mr Stevenson, "to resent an insult, but they possess virtues of a private and public nature, which deny to civilization its exclusive pretensions to patriotism, friendship, and hospitality." Their government is a singularly complicated and refined one for an uncivilized race. They acknowledge four *toquis* or governors of tetrarchates, whose territories correspond to the natural division of the country, viz. the maritime country; the plain country; the foot of the cordilleras; and the Andes. These tetrarchs are independent of each other in the civil administration of their respective territories, but confederated for the general good of the whole country. Each tetrarchate is divided into nine provinces, commanded by *apoulmenes*, or governors, subordinate to the respective toquis; and these provinces are again subdivided into nine districts, whose *ulmenes*, or prefects, are dependent on the *apoulmen*. This division existed prior to the arrival of the Spaniards, but the date of its establishment is unknown. All these dignities are hereditary in the male line, attending to primogeniture, but where there is no lineal male descendant of the person reigning, the vassals enjoy the privilege of electing a new governor from among themselves, and on reporting their choice to the *toqui*, they immediately order it to be acknowledged. The badge of a *toqui* is a battle-axe; that of an *apoulmen*, a staff, or baton, with a ball of silver on the top, and a ring of the same metal round the middle: the *ulmen* has the baton without the ring.

"When a general council has resolved to make war, one of the toquis is usually appointed by his brethren to take the command in chief, but should the four agree to nominate any other individual in the state, he becomes duly elected and assumes, the toquis laying down their insignia and authority during the war. The person thus selected is sole dictator. He appoints his subalterns, and is implicitly obeyed by all ranks. War being determined on, and the toqui chosen, he immediately sends his messengers, *werquinis*, with the signal, and as all Araucanians are born soldiers of the state, the army is soon collected at the rendezvous assigned. The arms of the infantry are musquets, which from the Spaniards they have learned to use with great dexterity, though bows and arrows, slings, clubs, and pikes, are their proper weapons. They have also their cavalry in imitation of their conquerors, and, possessed of a good and ample breed of horses, are very excellent riders. The arms of this branch of their force are swords and lances, their system being to come to close quarters with the enemy as soon as possible. Their standards have a fine pointed star in the centre, generally white, in a field of bluish green, which is their favourite colour. Military uniforms are not used, but a species of leather dress is worn under their ordinary clothing to defend the body from arrow, pike, and sword wounds. This is doubtless of modern invention, for before the arrival of the Spaniards, they had no animal of sufficient size to afford hides large or thick enough for such a purpose. After a general action or a skirmish, the booty taken is equally divided among the individuals who were at the capture. They judiciously consider, that rank and honours repay the leaders, and that a larger share of the booty would probably induce them to be more attentive to spoil than to conquest, to personal good than to national welfare; a policy worthy of the imitation of all nations.

" The Araucanian code of laws is traditionary, composed of primordial usages or tacit conventions formed in such general councils as are yet assembled by the toquis, in cases of emergency, and is called *aucacoyog*. Molina, Ullo, and other writers, are silent upon the current fact of the possession by this people of the *quipus*, or Peruvian mode of knotting coloured threads as a substitute for writing or hieroglyphics. That they do possess this art at the present day, the following narrative will testify: In 1792, a revolution took place near Valdivia, and on the trial of several of the accomplices, Marican, one of them, declared ' that the signal sent by Lepitrarn, was a piece of wood about a quarter of a yard long, and considerable thickness; that it had been split, and was found to contain the finger of a Spaniard; that it was wrapped round with thread, having a fringe at one end, and made up of red, blue, black, and white worsted; that on the black, were tied by Lepitrarn, four knots, to intimate that it was the fourth day after the full moon when the bearer left Pacquipulli; that on the white thread ten knots, indicating that ten days after that date the revolution would take place; that on the red was to be tied by the person who received it a knot, if he assisted in the revolt, but if he refused, he was to tie a knot on the blue and red joined together; so that, according to the rout determined on by Lepitrarn, he would be able to discover, on the return of his *chasqui* or herald, how many of his friends would join him, and if any dissented he would know who it was by the place where the knot, uniting the two threads, was tied.'

" The principal out-door diversions among the young men is the *palican*; this game is called by the Spaniards *cheuca*, and is similar, says Stevenson, to one I have seen in England, called bandy. Molina says it is like the *calcio* of the Florentines, and the *orphasto* of the Greeks. The company divides into two sets. Each has a stick about four feet long, curved at the lower end. A small hard ball, sometimes of wood, is thrown upon the ground; the parties separate, some advance towards the ball, and others stand aloof to prevent it when struck from going beyond the limits assigned, which would occasion the loss of the game. I was told that the most important matters have been adjusted in the different provinces of Araucania by crooked sticks and a ball; the decision of the dispute is that of the game, the winner of the game being the winner of the dispute. At Arauco I heard that the present bishop of Conception, Roa, having passed the territory belonging to the Indians without their permission, (a formality never to be dispensed with,) on his visitation to Valdivia, was apprehended in returning for not having solicited and obtained a pass, or safe conduct, from the *uthalmapu*, or principal political chief of the country which he had to traverse, called by the Indians, the *Laguen Mapu*, or marine district. His lordship was not only made prisoner, but despoiled of all his equipage; and it became a matter of dispute, which nothing but the *palican* could decide, whether he should be put to death or allowed to proceed to Conception. The game was played in the presence of the bishop: he had the satisfaction of seeing his party win, and his life was saved. The propriety, however, of keeping the booty taken from him was not questioned by any one."

Mr Stevenson informs us that the existence of gold mines in Araucania is undoubted, although they are not regularly wrought. The concluding part of the author's account of Araucania is worthy of notice:—"This interesting part of South America is less known than any other accessible portion. Others are less known, but they are interior countries, lying between the range of the Andes and Buenos Ayres, Paraguay, Brazils, and Colombia,—immense tracts of the earth kept in reserve for the speculations of coming ages! But Araucania, from its locality, climate, and productions, appears destined to become one of the first and fairest portions of the new world; and should the eyes of philanthropical speculators be directed to its shores, their capitals will be more secure in the formation of new establishments than in loans to many of the old."

CHAP. VIII.—ISLANDS.

Chilian Archipelago.] Betwixt the parallels of 41° 50′ and 43° 40′, and separated from the shores of Chili by a narrow and dangerous strait, lies a cluster of islands about 80 in number, one-fourth of which are inhabited. These islands are all very small, rocky, and sterile; but some are covered with thick and unwholesome forests. Wheat, lint, potatoes, and apples, are grown in some quarters by the islanders, who also rear cattle and sheep. The islanders are a race of simple manners; their numbers have been estimated at 25,000. This archipelago was discovered, in 1588, by Don Garcia de Mendoza.

The archipelago of *Chonos* extends from S. lat. 44° to S. lat. 47°, and contains 35 islands, inhabited solely by Indians,—the largest being 20 miles long by 5 broad. To the S. of this cluster of small islands are a number of dangerous rocks, on one of which the Wager sloop of war was wrecked in 1741; an interesting account of which, and the unparalleled sufferings of the crew, have been given in the narrative of Byron. To the S. of these rocks is the peninsula of the three mountains, and the three considerable islands of *Campano*, *Madre de Dios*, and *St Francis*, extending from S. lat. 48° to S. lat. 49° 20′, and explored by Malaspina. The rigour of the climate renders these islands of little importance. To the S. of these is the island of *St Martin*, in which there seems to be some Spanish settlements and factories; and a little farther south commences that broken series of wintry and desolate islands, called Tierra del Fuego, or 'the land of smoke.'

Mocha.] This island is situated 125 miles N.N.W. of Valdivia, in S. lat. 38° 20′ 30″. It is about 18 miles in length from N. to S., and is said to have been fertile, and once well-peopled, though it is now entirely deserted, except when visited by British or North American whale-fishers.

Juan Fernandez.] The islands of Juan Fernandez are two in number, and lie W. of Chili, about 350 British miles distant, in S. lat. 33° 40′. The one nearest the coast is called *Isla de la Tiera*, or *Shore Island*, and the more distant island is denominated *Mazafuero*. Both of these are beautiful and inviting; but the former only—which is the larger—is inhabited, and that by a few Spaniards. Mazafuero is 22 leagues W. of the larger island, and was represented by the Spaniards as a barren rock entirely destitute of wood, water, and herbage. But this was found by Lord Anson to be a political falsehood, asserted for the purpose of preventing hostile vessels from touching at it. There is safe anchorage in deep water on the N. side, in Cumberland bay; the S.W. side is surrounded by a steep shore, dry, stony, and destitute of trees, with little or no water. This is however flat compared with the northern part of the island, which is composed of high craggy hills, many of them inaccessible, though generally covered with trees, and these mostly aromatic. The pimento and cabbage-trees grow here, though in no great plenty; but there are great quantities of water-cresses and purslane, with excellent wild sorrel, and a vast profusion of turnips and Sicilian radishes. As the soil is shallow few of the trees are large; the myrtles are the largest, but even these will not work to a greater length than 40 feet. Small as this island is, being only 12 miles long by 6 miles broad, it has been immortalized by the pen of Defoe, who founded his most interesting novel of Robinson Crusoe upon the singular fate of Alexander Selkirk, a native of Fifeshire in Scotland, who being left on this island by his shipmates, was found by captain Woodes Rodgers, after having led a solitary life of 4 years and 4 months on this insulated spot.

PATAGONIA.

Boundaries and Extent.] This extensive region is bounded on the E. by the Atlantic, on the W. by the Pacific, and on the S. by the straits of Magellan, by which it is separated from the island or islands of Tierra del Fuego. The boundary line by which this tract is divided from Buenos Ayres and Chili commences on the side of La Plata, in S. lat. 37°, on the coast of the Atlantic, and is carried quite across the continent as far as the Chilian Andes in the same latitude, an extent of 660 British miles from E. to W. The western boundary runs from thence along the eastern foot of the Chilian Andes, as far south as 41° S. lat, when it strikes the Pacific, to the S. of Araucania. On the western side, the coast extends about 770 British miles, to the western entrance of the straits of Magellan, in S. lat. 52°, and upwards of 1,050 British miles along the eastern side, or shore of the Atlantic, exclusive of the windings; its utmost central length, from 37° S. lat. to the southernmost point of the straits in S. lat. 54°, is 1,175 British miles.

This tract is very little known, and at present of very little importance. The name of *Patagonia* was bestowed on the southern part, by Fernando Magalhaens, or Magellan, the first discoverer of its eastern coast and the straits called by his name. This appellation was derived from a tribe of savages, denominated Patagons by him, and was afterwards extended to the whole tract south of the Spanish settlements. That part of it which stretches along the shore of the southern Atlantic, from Tuyu to cape Virgin Mary. is denominated *Costa Desierta* by the Spaniards. From the vast saline plains that skirt its eastern shore, it is also called *Comarca Desierta*, or 'the Desert of Comarca,' in the Spanish maps. The maritime part only of this country is known, having been successively explored by Magellan, Diego Ramirez, Sarmiento, Drake, Cavendish, Hawkins, Narborough, Anson, Byron, Carteret, Wallis, Cook, and Cordova. During the 17th century, in order to obtain a safer passage to the great South sea, than the long and hazardous navigation through the straits of Magellan, the Dutch examined all these coasts. Hence the successive attempts of Oliver Van Noort, Schouten, Le Maire, De Weert, Hermite, and others.

Gulfs and Bays.] The principal gulfs, bays, and capes on the Atlantic side are the gulf of *St George*, extending from S. lat. 45° to S. lat. 47°; the gulf of *San Antonio*, extending from 41° to 43° S. lat.; the bay of *Nuevi*, and *Great Bay* to the south of Port St Julian; the entrance of *Ballaco; Port Desire; Port San Julian;* and the bay of *Nodales*. The capes are those of *Corrientes, Blanco, Tres Puntas, Curiosa, Barrera, Possession*, and *Virgin Mary*, at the eastern entrance of the straits of

Magellan. *Port Famine* and *Cape Forward* form the southern extremity of the South American continent, at the very middle of the straits. To the N.W. of the straits, the western coast presents *Cape Victory*, *Isabella*, *San Lucia*, and the gulf of the *Holy Trinity*, *Cape Corso*, the peninsula of the *Three Mountains*, with the isthmus of *Orfin*, gulf of *Pinas*, *Point St Andrew*, the archipelago of *Chonos*, and the gulf of *Chiloe*.

Mountains.] As so little is known of the interior, it is impossible to give any description of it. The vast chain of the Andes pervades it from N. to S., having on the E. a large extent of flat saline country interspersed with innumerable small streams ending in small lakes. The Andes near the middle of the strait are generally about 3,000 feet high, although some attain the height of 4,000 feet. The line of perpetual snow in the strait is about 3,500 feet above the level of the sea. Between Chiloe and the strait the height is about 3,000 feet, with a few summits rising to the height of 5,000 and 6,000 feet. There are several active volcanoes,—as those of *Osorno*, in S. lat. 41°; *Huanauca Corcobado*, in S. lat. 43°; *Quechucabi Iluytaca*, in S. lat. 44° 20′; *Minchimavida*, and *St Clement*, in S. lat. 46°; and *Volcan des Gigantes*, in S. lat. 52°. A chain of mountains, called *Casuhati*, or *Gazuati*, stretches S.E. from the Chilian Andes to the district of Tuyu, forming the N.W. boundary of Patagonia, but it is of small elevation, seldom exceeding 1,500 feet. Immediately to the south of the Rio Negro is another small chain of mountains, passing E. from the Andes, called *Caquicalel*, and seemingly chalky, appearing at a distance like snow.

Rivers.] The chief rivers of this tract fall into the Atlantic, having their sources at the eastern foot of the Andes, and generally running in a S.E. direction. The first of these, to the S.E. of the pampas of Buenos Ayres, is the *Flueuque*, which rising in the Andes of Cuyo, in S. lat. 29°, and after a comparative course of 700 British miles, falls into the bay of Anegada, in 38° S. lat. The next stream is the *Desaguadero*, or *Rio Colorado*, called *Moya Lec Leuvu* by the Indians, and the largest river of Patagonia. It takes its rise from a multitude of small streams that issue from the eastern cordilleras in the 30th degree of S. lat., and after passing through the *Laguna de Guanachuache* and the *Laguna Grande*, and sending off a branch at a large marsh called 'the Reedy swamp,' to the river *Tleuque*, it falls into the Atlantic, in S. lat. 39° 50′. Its comparative course is upwards of 1,000 British miles, and it is a deep and rapid stream.—The third river, called the *Rio Negro*, or the *Cusu Leuvu*, is formed by a variety of brooks, which have their sources on the eastern declivity of the Andes, between the 35th and 36th degrees of S. lat. It runs first S. and then W., and finally S., when it falls into the Atlantic in 41° S. lat., after a very winding course of more than 700 British miles. It is joined, in the early part of its course, by the *Sanguel*, or *Miau lec Leuvu*, a large stream coming from the N. Beyond the Rio Negro is the *Rio Camarones*, a large stream running S.E. from the Andes into the gulf of St George, in S. lat. 44°. It is supposed that the source of this stream is not far distant from the gulf of Chiloe, and that a communication might be opened between it and another stream that falls into the above gulf at Estero del Aysen, by means of a short canal. Farther to the S. is the river of *Desire*, falling into the port of the same name. In S. lat. 48° 51′, is the deep bay of *San Julian*, and supposed to run so far into the interior as to be connected, by means of lakes, with the river of Campana, which falls into the Pacific; but the governor of Buenos Ayres having, in 1746, sent persons to examine this imaginary or pretended communication between the Atlantic and Pacific, it was found that no such communication existed. On the western coast, the rivers, though numerous, all run short courses from the western declivities of the Andes, and merit no description. There are a considerable number of large lakes in the interior, besides smaller ones of little consequence. Among the principal discoveries made by captain King, are two spacious lakes, which extend to a considerable distance inland from the western shore of the continent. One named the *Otway Water*, is a large inland sea of salt water, about 50 miles in length: this communicates by a narrow channel with another, named the *Skyring Water*, about 34 miles long and 20 wide. Another opening extended to the N.W. from Skyring Water, which captain King had not time to explore. The tracks of horses were noticed in many places on the shores of these lakes, and the bones of Guanacoes were scattered about.

Climate.] Captain King mentions a circumstance relative to the temperature of the climate, which is very remarkable. During the summer, he has been employed at his observatory the greater part of the night, when the thermometer has been as low as the freezing point, both within and outside of it, and, although not warmly clad, he felt no sort of inconvenience from the cold; and, in the winter time also, the thermometer has been at 24°, without any inconvenience being felt. He attributes this to the peculiar stillness of the atmosphere on the coast, although at a short distance at sea in the offing, the wind was high. There are other peculiarities in this climate, which also attracted the attention of captain King. One is the extraordinary warmth of the sea near its surface, compared with the state of the atmosphere. In the month of June a difference of 30° was found between the temperature of each; the consequence of which is, that the sea is covered with a cloud of steam, and this may, in some measure, account for the prevalence of fogs. Another extraordinary circumstance relating to the climate is, that parrots and humming birds, generally the inhabitants of warm regions, are numerous in the southern and western parts of the strait; they were even observed on the wing during a snow shower, and after a constant succession of rain, snow, and sleet; the latter have been seen sipping the sweets of the fuschia and other flowers, while the thermometer was at the freezing point.

Soil, &c.] So little is known of the interior, that no idea can be formed of the nature of the soil, or whether it be barren or fertile. At the mouth of the Rio Negro, the land has been found fertile on both sides of the stream, the banks of which are often woody, though the rest of the country is represented to be a sandy waste. Around Port Desire there is nothing but sand; while in the vicinity of San Julian there is much gravel, on a hard stiff soil. Though a few valleys have been found here and there along the coast to be tolerably fertile and warm, yet navigators universally concur in representing the soil of the Patagonian coasts as barren, hardly producing any grain, the trees exhibiting a dismal aspect, and the climate excessively cold. The country abounds with wild animals, as deer, guanacoes, hares, and ostriches; while multitudes of water-fowl frequent the rocky shores. Prodigious numbers of seals, from 14 to 18 feet long, and thicker than a bull, are to be found in the vicinity of Port Desire.

Inhabitants.] The country is very thinly peopled, and that by savages as barbarous as the country is desolate. They have been successively described by almost every navigator who has visited this region, but particularly by Thomas Falconer, a well-known Jesuit missionary in South America. The various tribes (according to him) who roam over the mountains and barrens of Patagonia, are all *Puelches*, or *Patagons:* the most southern tribe being the *Tehuels*, extending on the east to the straits, and the *Huilliches*, a tribe of the Moluches or Araucanians. The Puelches inhabit the mountains, and the Huilliches the plains. The former are the proper Patagons, and belong to the Puelches of Chili, who are confederated with the Araucanians. The term *Puelches* is an appellative, signifying 'eastern men,' indicating their relative situation to the Moluches or Araucanians. They are very tall of stature, fond of the chase, and often change their habitations, so that they may be called the Tartars of South America. There is such a similarity of character between the natives of Patagonia and their kindred tribes in Chili and Araucania, that the description of the latter may serve for that of the former, with this exception, that roaming over a more barren and inhospitable country, and having less communication, or rather none at all, with Europeans, they are more barbarous, cruel, and savage. The tribes of the Moluches, like their Araucanian neighbours, have hereditary chiefs, called *elmens* or *yas;* and they sometimes choose an *apo*, or commander-in chief. Neither they nor the Puelches seem to have any religion, but appear to venerate the sun and moon, whom they call *antu* and *quien*. The only ceremony that looks like religion, is when they kill a beeve, sprinkling some of the blood upon the ground, with these words, "Give me and my people to eat." Around Port Desire and San Julian, the population is scanty and poor. The Indians of the pampas bordering on Buenos Ayres do not exceed 5,000 or 6,000, including 1,000 warriors. The Tuelcoes are still more numerous, divided into bands of horse and foot, and are dreaded by the Pampas Indians, but often join with them in attacks on the Spanish settlements. So attached are they to incessant warfare, that when they have no foreign enemy to attack, they will wage war with each other. Much has been said of the gigantic stature of the Tehuels or Patagons, and after making every reasonable allowance for the exaggerations of navigators, who made them from 8 and 9 to 11 and 12 feet high,[1] it does appear that many, if not the most of them, are considerably above the ordinary stature of human beings. Falconer, the missionary, measured a cacique of the Tehuels, and found him to be 7½ feet in height. Their stature, measured with great accuracy by the Spanish officers of Cordova's expedition, in 1785 and 1786, was found to be at the utmost 7 feet 1¼ inches, and the common height from 6½ to 7 feet. It is to be remembered, however—as the translator of Cordova's narrative has remarked—that the *vara*, or yard, of Burgos, the standard of Spain, contains 33.06132 inches, or 2 feet 9 inches and 1-16th, English; the tallest Patagonian, therefore, did not exceed 6 feet 6 inches and one-third, English: and those of the common size were from 5 feet 11 inches and two-thirds, to 6 feet 5 inches and one-seventh English. It is also to be remembered, that Spaniards are not in general tall men, and that a seaman is seldom among the tallest of his countrymen; to them, therefore, the Patagonians might appear giants. "But even this height," says Cordova, "is not so striking as their corpulence, or rather bulkiness, some of them measuring 4 feet 4 inches round the breast; but their feet and hands are not in due proportion to their other parts. They all give evident signs of strength of body; they are full of flesh, but cannot properly be called fat. The size and tension of their muscles evince their strength; and their figure, on the whole, is not disagreeable, although the head is large, even in proportion to the body; the face broad and flattish, the eyes lively, and the teeth extremely white, but too long. Their complexion, like that of other Americans, is *cetrino* (pale-yellow), or rather verging on a copper-colour. They wear thin black straight hair, tied on the top of the head with a piece of thong or ribbon, brought round their forehead, having the head entirely uncovered. We observed some with beards, but which were neither thick nor long.

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[1] The Italian Pagifeta, in the romance which he published, as a history of Magellane's expedition, is the first who gave to the Patagonians a stature of more than 4 yards; but, abstracting from the little credit due to this author, on account of the absurdities and falsehoods scattered over his work, in the circumstance of their size he is so inconsistent, that, after having furnished them with heads of a monstrous size, he says that Magellanes, amongst other presents, gave to one of them his own cap, which the other immediately put on and wore, although Magellanes was himself far from being a giant. So fond was Pagifeta of such prodigies, that he has even planted giants on the banks of the Rio de la Plata. Maximilian Transilvanus—who in his work only translated Pagifeta's book—repeats the same absurd story, and even embellishes it with some improbabilities of his own invention. As these two were the only works which had general circulation in the world, they fell into the hands of authors of more simplicity than discernment, such as Gonzalo Fernandez Oviedo, who translated the above and many other fables into his General and Natural History of the Indies, enlarging much on the Patagonians, and confiding in the information he received from the clergyman Arizega, who, wantonly abusing his credulity, told him many things which do not appear in the formal declaration he afterwards made, and which are totally undeserving of credit: such as, that even a tall man could not reach with his hand to the waist of a Patagonian,—that these people devoured a couple of pounds of raw flesh at a mouthful,—that they drank off 6 or 7 arrobas (18 or 20 gallons) of water at a draught,

"Their dress adds much to the effect of their size, being composed of a kind of cloak made of the skins of lamas or zorillos, arranged with some skill, with stripes of different colours in the inside. They wear it fastened round the waist, so that it covers them below the calf of the leg, letting that part commonly hang down which is intended for covering the shoulders; and when the cold, or other cause, induces them to put it over them, they hold the upper part of it with the hand, and so cover themselves entirely with this cloak. Some also, besides this skin-cloak or mantle, wear *ponchones*, and breeches or drawers, of the same shape and sort with those worn by the creoles of Chili and Buenos Ayres. The *poncho* is a piece of strong cloth striped with various colours, about three yards long and two broad, having an opening in the middle, made for the purpose of passing it over the head; a piece of dress extremely proper for riding on horseback, as it covers and defends the arms, at the same time leaving them in perfect liberty for any exertion. Some had ponchos made of the stuffs manufactured by our settlers in Buenos Ayres. The breeches or drawers are very like those worn in Europe; but their boots are very different, being formed of the skin of the legs of the horse, taken off whole, without cutting them open, and sewed up at one end. There were, however, few Patagonians who enjoyed all these conveniences. The far greater

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and other ridiculous exaggerations, to be seen in the above history. When this opinion came to be published by Oviedo, a cotemporary author, it is not to be wondered at that it began to gain credit, and was adopted by Gomara, Argensola, and other writers, who, with excessive credulity, committed to writing whatever they heard of these remote regions. Gomara not only copied Pagifeta, but added many other absurdities, collected from other quarters.

number were almost naked, having only their skin-cloak, with a sort of leather purse hanging by a thong fixed round the waist, and fastened between the legs with one or two thongs, to the former round the waist. With a piece of skin or leather fastened round the foot, they make a kind of shoe, and fix to it, behind, two little bits of timber, forming a sort of fork, which serve them for a spur; but they leave off this part of their dress when they have no intention to go on horseback, which, however, happens very seldom. It is a very general practice among them to paint the face with white, black, and red, a kind of ornament contributing very little indeed to the agreeableness of their appearance.

" Their equipage, or horse-furniture, consists of a kind of covering formed of several skins of lamas, one over the other, and rolled up a little both before and behind, so that at first sight they have some resemblance to a saddle; the whole fastened on with strong leather thongs or straps, instead of girths. The stirrup is formed with a piece of wood four inches long, supported at each end by a small thong, connected with another which is fastened above to the girth. The other parts of their furniture resemble entirely those used by the Indians of Buenos Ayres, with this difference alone, that the bit is made of very hard solid wood. As the Patagonians have neither iron nor cordage, they supply their place with solid timber, and straps or thongs of skin or leather. We saw one among them having a complete European saddle and bridle, but could not learn by what means he had acquired them.

" Although we saw these people in troops of 300 or 400 together, yet we can give no information concerning their women, who never came near enough to permit our examination: only an officer, who was on shore in the bay of St Gregorio, assured us that their stature was somewhat shorter than that of the men, and that they differed very little from the men in their dress. The children, even in their tender years, show that they are descended from parents of extraordinary size; and, by the largeness of their features, indicate to what they will arrive, when nature shall have attained its full vigour, and their members shall be properly developed."

The Patagonian Indians have a peculiar custom of visiting the graves of their dead annually, for the purpose of collecting the bones, to be conveyed to the family sepulchres. The coast between the latitudes of 41° and 51° is frequented by them for that purpose. Near Port Desire, captain King stated, that he had seen the graves of these Indians on the summit of hills, but the bodies had been removed, probably by their relatives, for the above-mentioned purpose. When placed in the sepulchre, they are adorned with beads, and as many ornaments as can be collected for the purpose; the ceremony being performed by certain women of the tribe, whose peculiar office it is to attend to these rites.

TIERRA DEL FUEGO.] In the map of La Cruz, the Tierra del Fuego is divided by a number of narrow straits into 11 islands of considerable size. The largest island, properly denominated by the above name, contains a surface of 42,000 British square miles; and is separated in its whole eastern and western extent from the South American continent by the straits of Magellan on the N.; on the S.E. by the straits of Le Maire, separating it from Staten island; on the N.E., by the channel of St Sebastian from a considerable island, whose northern shore fronts the eastern entrance of the straits of Magellan; on the S. by Nassau strait, which separates it from Hermite's islands; and on the N.W., by another passage, which separates it from a cluster of other islands, lying to the south-west of the above straits. Cape Horn—the doubling of which has been so long the dread of navigators—is the southmost point of admiral Hermite's islands, being situated in 55° 58′ S. lat. The passage by this cape, (instead of sailing through the straits of Magellan), was first discovered in 1616, by Jacob le Maire, and was so called by him out of respect to the town of Hoern, in North Holland.—*Staten Island*, separated, as above mentioned by the straits of Le Maire, was first discovered to be an island, by the Dutch admiral Brewer, in 1642, who found another strait at its eastern side, which he called after his own name, and which is narrower and shorter than the strait of Le Maire. The *Straits of Magellan* are 340 British miles in length, and stretch so far to the S.W., and from thence to the N.W. that they resemble a crescent or half-moon. In some parts they are not a league broad; but at the mouth, between Cape Pelares and Cape Victory, the breadth is upwards of 30 miles, and 24 miles at the eastern entrance, between Cape Virgin Mary and Queen Katharine's Foreland. In order to prevent all foreigners from passing through these straits into the great South Sea, Philip II. of Spain, sent a squadron of 23 ships, 2000 men (colonists), and 500 soldiers, with every requisite for forming a settlement on either side, in 1582, under Don Pedro Sarmiento; but the design miscarried, and both colony and garrison perished from cold and famine. In their zeal for natural history, Sir Joseph Banks and Dr Solander had nearly perished amidst the horrible snows of this inhospitable island; but they found a considerable variety of plants. This dreary region, however, is not so completely oppressed with eternal winter as some have represented it, the vales being often verdant and enlivened with brooks, while the sides of the hills are adorned with a few trees. As to natives, they are much the same in every respect with those of the opposite continent, and therefore need no farther description.

FALKLAND'S ISLANDS.] To the N.E. of the straits of Magellan, are the Falkland islands, so denominated by the English, in 1639, in honour, as is supposed, of Lord Viscount Falkland; but by the French called the *Malouines*, and by the Spaniards, *Maluinas*, from the people of St Maloes, whom they esteem as the first discoverers. They were first discovered by Sir Richard Hawkins, in 1594; the chief of the islands he named *Hawkins's Maidenland*, in honour of Queen Elizabeth. In 1763, the French having lost Canada, turned their attention to these islands as an American settlement in another quarter; and an ample description is given in Pernetty's account of Bougainville's voyage. In 1761, commodore Byron was sent to take possession of them, upon the ground of prior discovery; and a small establishment was made at a place called Port Egmont, but being found of little or no value, they were abandoned in 1774, and ceded to Spain. The taking possession of these comparatively unimportant islands, roused the ever wakeful jealousy of Spain. A fleet was fitted out which dispossessed the British settlers of these islands in 1770, which occasioned a counter armament on the part of Great Britain, and had well nigh led to a war between the two powers; but this ridiculous dispute about islands considered as uninhabitable even by savages, was wisely settled by a convention, in which the British regained possession of them. The two islands are of considerable size, each about 40 miles square. The soil is bad, and the climate disagreeable, and the shores beaten with perpetual storms; nothing but reeds and moss cover the ground; the sky is perpetually concealed from view by thick fogs; the extreme cold cannot be alleviated by fire, as there is neither wood nor coal; and even a ship in port is covered with constant snow. The shores are frequented, however, by considerable numbers of water-fowl and fish. The penguins, called swans by the Spaniards, supply a scanty and miserable food; and walruses, and other animals of the seal-kind, abound. The Spaniards have a small settlement on the N. of the larger island. The history of the ridiculous disputes between Great Britain and Spain concerning these miserable islands, is one of the numerous evidences of the necessity of the study of geography among statesmen, as nothing but a complete geographical ignorance concerning them, could have raised such an unnecessary alarm on both sides.

SOUTH SHETLAND ISLANDS.] Still farther to the S. than the Falkland isles, and more desolate, are the islands of South Shetland, which were discovered in October 1819, and taken possession of, in the name of his Britannic majesty. The extent of this group so far as it has been explored, is from 54° to 65° W. long., and from 61° to 64° S. lat. It consists of numerous islands without a vestige of vegetation, except a species of moss, and in a few solitary spots, something resembling grass. The interior is mountainous, and covered with eternal snows. A species of coal was found, which burnt well. Seals were extremely plentiful, and shrimps and penguins were numerous beyond all conception. The large islands of South Shetland which have been discovered, are five in number. One of them has been named *Livingston's Island*, another *Robert's*. Some of the harbours are very good; vessels in them being land-locked. No field ice was seen in their vicinity, but innumerable ice islands were floating about.

GEORGIA.] In this department may also be reckoned Georgia, an island of considerable size, lying to the N.E. of South Shetland, in 36° W. long., and in 54° S. lat. This island was first discovered by Rochon, a French navigator, in 1675; it was visited by the Spaniards in 1756; and explored by captain Cook, in 1775. It may be termed a land of ice, presenting rocks and mountains of that substance; while the vales, destitute of trees or shrubs, are clothed in eternal snow, the only vegetables being a coarse species of grass, burnets, and lichens. The rocks are of blackish horizontal strata, perhaps approximating to hornblende. The lark, a hardy bird, appears here as well as in Hudson's bay, and there are numbers of large penguins and seals.

To the S.E. of Georgia are some, if possible, more dreary islands, more properly called the Southern Thule than the Sandwich islands, a name already bestowed on a very different country. Here, seated for ever on her icy throne, sits the Southern Winter surrounded by black rocks covered with everlasting snow.

GUIANA.

I. CAYENNE, OR FRENCH GUIANA.

Extent and Boundaries.] Having finished the description of the Spanish and Portuguese portions of South America, nothing now remains to be described of this continent but the coast of Guiana; and as the French settlement of Cayenne is that portion of the Guiana coast which lies immediately to the N. of Portuguese Guiana, order requires that it be first described. This maritime tract obtained its name from Caen in Normandy—the first adventurers being from that province—and consists of the island of *Cayenne*, and a tract of sea-coast extending in a N.W. direction from Cape Orange, in N. lat. 4°, and on the southern side of the mouth of the Oyapoco, to the mouth of the Amano which separates French Guiana from Surinam or Dutch Guiana, in 5° 30′ N. lat.,—a space of 200 geographical, or 240 British miles. Its interior boundaries are undefined, but the French claim the country situated between the Oyapoco and the Maroni, as far as the sources of these two streams—which are yet unknown, at least that of the latter. No settlements, however, have ever been formed far from the coast. The island of Cayenne—which has frequently, but erroneously, been confounded with the continental territory, so called—is separated from the mainland only by two arms of a river of the same name, and is 10 miles long by 10 miles broad. As French Guiana has never risen to commercial or political importance, a few brief remarks concerning it are all that shall here be offered.

Climate.] The climate is much more salubrious than that of the Antilles. The seasons are divided into wet and dry; and these again are distinguished by the appellation of the greater and the lesser, from the extremes of drought and of rain being less violent in the latter than in the former. The long rainy season commences about the middle of April, and continues till July, when the long dry season commences, and continues till November. During the rains, the heats are very moderate, considering its proximity to the line; nay, even the Negroes sometimes complain of the cold, and upon the whole the general state of health is as good here as in Europe. During the season however when the stagnant waters dry up and corrupt with the heat, fevers prevail for two months, which, though not contagious, prove very destructive.

Productions.] The situation of the island of Cayenne makes it a most unfit place for a settlement and the capital of the colony. It would probably have fared better with the colonists if they had fixed their residence on the mainland, as opposite the island it is hilly and mountainous, in which respect it is distinguished from the generality of the Guiana coast, which is for the most part low and swampy, and subjected to continual inundations both from the sea and from the number of rivers which rush impetuously down the mountains. The fertility of the soil on the mainland is uncommonly great, though in some parts it is sandy, dry and barren. The productions are of an excellent quality, particularly spices and cotton, and it is easy to subsist here. The noted Cayenne pepper is one of its productions. This is the fruit of the *capsicum baccatum;* it is gathered when ripe, and dried in the sun, it is then pounded, and mixed with salt, and sometimes baked with a small addition of flour; the biscuit, rasped into powder, is sent to Europe. All the productions of the mainland are raised on the island, but with this difference, that the soil of the latter is as it were exhausted, and does not equally repay the planter for his expenses and labour; the fertility of the remoter continental soil is often astonishing, but as it is not to be obtained without labour and expense, its culture has been much neglected. Several of the settlers, thinly scattered over vast deserts, and separated by impervious brakes and brambles, and at the same time surrounded with Negroes who endanger their peace and safety, have abandoned cultivation altogether, confining themselves to the rearing of cattle, which can be kept without care or expense in the immense savannahs or natural meadows of the country. Mr Leblond values the exportations of the colony at 4,000,000 of francs per annum, viz.:—1,000,000 pounds of fine cotton value 3 francs, 3,000,000; 600,000 of Cayenne; 400,000 of cloves. In 1824, it received French imports to the value of 3,099,000, and exported to France goods to the value of 2,304,653 francs.

Population.] The number of inhabitants on the island is small, not exceeding (exclusive of the garrison) 1100 or 1200 whites, and these are commonly of the lowest class, and chained down to it as it were because their means will not allow them to emigrate to other parts. They merely cultivate as much land as is necessary for their own subsistence, obtaining from Europe, in return for that part of their scanty produce which they can spare, wine, flour, clothing, &c. The town is situated close to the sea-side, on the right bank, and near the mouth of the Cayenne river, which is almost a league broad, and generally from 25 to 30 feet deep, and the west branch of which forms the port, which has not above three feet of water. It contains only about 200 wooden and badly constructed houses, surrounded by a swampy moat and wretched walls which form a sort of irregular hexagon. The fort commanding it is of earth, and tolerably strong towards the sea especially, for this reason that ships cannot approach within cannon-shot of it for want of sufficient depth of water. The navigation of the coast is besides generally dangerous on account of shoals and flats; and there is not a single good harbour on the whole coast but in the island itself. The palace of the governor, and the ancient mansion of the Jesuits, are the only decent buildings in the place. A new town has lately been built on the neighbouring savannah, separated from the old one merely by the ditch. This—which is the more considerable of the two—is regularly built—has wide streets admitting the free access and circulation of the air,—and contains some elegant houses, the beautiful appearance of which becomes more striking from the obvious marks of poverty and misery universally exhibited around. Besides 1100 or 1200 whites already mentioned, and a garrison of from 600 to 700 soldiers, there are about 800 aboriginal Indians, and about 14,000 Negroes, making a total population of about 17,000 persons for the whole colony. There is besides a miserable fort called *Sinamari*, on a river of the same name, 30 leagues to the N.W.

of the city, where generals Pichegru and Ramel, with Barthelemy, Hebert, and others, were confined, after having been transported by the tyrannical order of the Directory, in 1797. On the Oyapoco is another small fort, called *St Louis*. Besides the *Galibis*, a tribe of native Indians who wander in the vicinity of the principal settlement, there are many other native tribes. They are mostly of middling stature; but the females are less, and not so well formed as the males. Their features differ but little from Europeans, and the progeny of the two races can scarcely be distinguished from that of the old world.

Historical Remarks.] The history of this settlement presents nothing worthy of notice. The project of forming a settlement in this quarter was first formed between the years 1604 and 1635. The imaginations of every nation in Europe had been fired with the visionary tales of El Dorado, or the Golden City. The French were not behind in believing such fables, and in endeavouring to find out so delectable an abode; and in the progress of these fruitless attempts, a colony was founded here, of which the merchants of Rouen in Normandy were the chief promoters. But the settlement did not thrive. The natives enraged at being expelled from the lands of their fathers without so much as an attempt to purchase them, or to court their consent, rose against these intruders, and murdered the governor and almost all the whites. A new company was however established, in order to re-organize the colony. But the passengers quarrelled with each other during the voyage; the new governor was drowned as he was stepping into his boat; and the general was assassinated before he arrived to take his post. No sooner had the passengers landed at Cayenne, than their quarrels with each other were renewed, and with the few remaining settlers; many died of wounds, more of the climate; the garrison deserted to the Dutch; and the Indians roused by numberless provocations, fell upon the remainder, who deemed themselves happy in being able to escape in an open boat and two canoes to one of the leeward islands. The settlement, thus abandoned, fell into the hands of the Dutch; but was shortly after wrested from them, in 1663, by a vigorous effort of a new company formed through the influence of the French government. In 1667 it was captured by the English; it was retaken again by the Dutch in 1676; recaptured in the same year by the French admiral De Estrees, and confirmed to France at the treaty of Nimeguen. Soon after this period, some pirates, loaded with the spoils of a South Sea expedition, came and fixed their residence here, resolved to spend the remainder of their lives in the cultivation of the land. But this project did not long please people accustomed to a roving life; in 1688, Du Casse, an able commander, having arrived with some ships from France, proposed to them the plundering of Surinam; the scheme was adopted, and an expedition undertaken, in which most of the colonists joined, but the design failed; some of the assailants fell in the attack, whilst all the rest were made prisoners and sent to the French Caribbee islands, a loss from which the colony never afterwards recovered. Soon after the peace of 1763, a vigorous but fruitless attempt was made by the French government to increase the importance of this colony, and to render it in some measure a compensation for the loss of Canada and Louisiana. For this purpose, 12,000 men, engaged in France as labourers, were landed in the adjacent isle of Du Salcet, and on the banks of the Kourou. But no habitation or proper provision having been made for this multitude of new colonists,—and arriving, as they did, at their places of destination at the precise time when the great rains commenced, when they could neither find subsistence nor employment,—they nearly all perished, falling victims to a climate then most insalubrious, and to the influence of which they were entirely exposed. More than a million sterling was uselessly expended on this enterprise. This fatal specimen of French colonization, was prejudicial to the character and prosperity of the settlement, as it not only deterred the French government from paying the least attention to it, but also prevented many Europeans and West Indians from settling in Guiana, the blame being transferred from the stupid manner of conducting the enterprise to the climate itself. Nothing of importance has since occurred in that colony, except the banishment of a number of French deputies thither by an arbitrary mandate of the French Directory. By the peace of 1802, the bounds of Cayenne, or French Guiana, were fixed on the Portuguese frontier by the river Arawari from the embochure between Cape New and the isle of Penitence to its source, and thence in a right line westward to its source of the Rio Branco; the navigation of the Arawari through the whole course being left free to both nations. In 1809 the colony was captured by the united forces of the British and Portuguese, and restored to France at the peace of Paris, in 1814. By act of Congress, 9 June 1815, the prince-regent of Portugal and Brazil agreed to restore it to France, to the banks of the Oyapoco, its original boundary, fixed by the treaty of Utrecht. It is now the only continental colony possessed by the French since the cession of the Canadas in the north to England, and of Lousiana to the Spaniards, and is valuable on account of its proximity to the Little Antilles.

II. SURINAM, OR DUTCH GUIANA.

UNDER the name of Dutch Guiana were comprehended, till very lately, the settlements of *Surinam, Berbische,* or *Berbice, Demerara, and Essequivo,* or *Essequibo:* Surinam being the original and chief settlement, and the three latter subordinate colonies. As these latter were transferred, by the peace of Paris, in 1814, to Great Britain, the Dutch now possess Surinam only, and even that within contracted limits, the river Corentin being now the boundary to the W. on the side of Berbice. The present political limits of Surinam are, the Mana, dividing it from French Guiana on the E.; by the Corentin, on the W., dividing it from English Guiana; and the Atlantic on the S. Its interior boundary is undetermined, but is generally understood to be a line drawn from the source of the Mana, across the Upper Maroni, and finally terminating in the Tumucurag mountains, by which Dutch Guiana is separated from Spanish Guiana on the S.W. This line also divides its interior from French Guiana on the E. The maritime extent of Surinam is very nearly three degrees of a great circle, or 210 British miles, and about as much inland to the above described line.

Climate.] The climate, soil, and seasons are so similar to those of both French and British Guiana, that—a few local peculiarities excepted—the description of one of these regions is the description of all. Fruits of a temperate clime cannot endure the heats of this tropical region, even the vine does not thrive here.

Rivers.] The chief rivers in this settlement are the *Maroni* and the *Surinam,* both large streams flowing from the mountains of Tumucurag. They are full of falls and rapids, in consequence of which their navigation is not great. The Maroni runs a much longer course than the Surinam;

its direction is from S. to N.W., and its comparative course amounts to 350 British miles. The course of the Surinam is first from W. to E., and then from S. to N., amounting in whole to about 280 British miles. West of the Surinam are the *Suramaco* and *Capanama* rivers.

Population, &c.] According to Colquhoun, the population of this colony in 1812, was 3,186 whites, 2,889 free persons of colour, and about 60,600 slaves. In 1815 it was estimated at 2,029 whites, 3,075 free persons of colour, 31,937 negro slaves, and 13,200 free Indians and Maroons. The estimated value of its exports to Great Britain in 1812 was £795,094; and to all other places, £65,113; its imports from Great Britain, £390,716; from all other parts, £137,451. In 1815 its exports were valued at 30,000,000 of francs.

Paramaribo, the capital of this settlement, is a considerable town, of about 5,000 souls, situated on the banks of the river of that name, which is there about a mile broad.

Historical Notice.] The settlement of Surinam owed its existence to the early attempts of the Dutch to colonize at the mouth of the Maranon. Driven from thence by the Portuguese, they finally settled at the mouths of the Surinam, Berbische, and Demerara rivers. Surinam was first settled in 1663. It was captured by the English in 1667, and restored to the Dutch by the treaty of Breda, in 1676, in exchange for the province of New York. It remained in the hands of its original colonizers till 1796, when it was captured by the French; recaptured by the British, in 1799, it was restored to the Dutch at the peace of Amiens. It again fell into the hands of the British during the last war; and was again restored to the Dutch, at the peace of Paris, in 1814.

III. BRITISH GUIANA, COMPREHENDING BERBICE, DEMERARA, AND ESSEQUIBO.

Extent and Boundaries.] This includes all the maritime tract between the river Corentin (the western limit of Surinam) and the frontier of Spanish Guiana, at Cape Nassau, in S. lat. 70° 40′,—a space of more than 200 British miles in a direct line, but much more if we include the sinuosities of the coast. It is bounded on the N. by the Atlantic; on the W. by Colombia, a line drawn from the mouth of the Miroco to the confluence of the Cuyuni and Masrini, and along the left bank of the Essequibo to its confluence with the Rupunusi, forming the boundary; on the S. by Brazil; on the E. by Dutch Guiana. The whole coast is so flat, that it is scarcely visible till the shore has been touched; the tops of the trees only are seen, and even seem to be growing out of the sea,—nothing of varied scenery is presented to the eye,—little is beheld but water and woods, which seem to conceal every appearance of land. The same sombre and monotonous appearance is presented in the interior to those few curious individuals who have endeavoured to penetrate into those recesses of the forest, by the numerous openings which nature has made by the streams which successively augment the Corentin, the Berbice, the Demerara, and the Essequibo.

BERBICE.] Berbice, now a British colony, is situated on the banks of the river of that name. The mouth of the river Berbice is in 6° 20′ N. lat., and 57° 11′ W. long. The plantations are situated on both sides of the river, and extend nearly 100 miles from its mouth. Previous to the capture of Surinam, in 1799, this colony was bounded on the E. by the

Devil's creek, and on the W. by Abarry creek, by which it was separated from Demerara, which made its breadth about 30 miles. But in that year a negotiation was entered into between the governors of Surinam and Berbice, by which the former colony conceded to the latter that tract of country between the Devil's creek and the river Corentin, thus increasing the breadth of this colony to about 45 miles. The sea-coast, extending about 50 miles, and the west bank of the Corentin, were soon after surveyed and laid out into regular allotments. The British have further enlarged this colony, by clearing and embanking from the sea, all the line of coast between the Demerara and the Corentin, forming upon it a carriage-road 60 feet broad, with six-feet parapets on each side, for the convenience of travelling.

Rivers; *&c.*] This colony has two rivers, the *Berbice* and the *Canje*. The Berbice runs from S. to N., and discharges itself into the Atlantic. Without its entrance is a bar of sand over which at high tide there is seldom more than 16 feet of water; but within the bar there is sufficient depth, and the river is navigable for ships of burden 200 miles from its mouth. Rather, however, than cross the bar, vessels generally prefer anchoring off the port of Demerara. The Canje is a narrow but deep stream, running at first nearly from S. to N., but afterwards diverging to the E., till it falls into the Berbice a mile from the sea. It is navigable for colony-schooners 30 miles from its mouth.

Towns.] There are two towns in this colony, *Old Amsterdam*, and *Fort Nassau* or *New Amsterdam*. The former is stated by Bolingbroke to be 50 miles up the river, while Dr Bancroft says it is 100 miles from its mouth. New Amsterdam, although planned by the Dutch, has been almost entirely built since the colony came into the possession of Britain, and is chiefly inhabited by British settlers. It is situated on a point of land on the eastern shore of the Berbice, and south side of the Canje, about a mile from the sea, the houses extending about a mile and a half up the banks of the Berbice, facing the water.

Productions.] The principal productions of the colony are sugar, coffee, tobacco, cocoa, cotton, and the *arnotta* or *roucou* shrub. Cotton is chiefly cultivated, and thrives best on the coast-estates. A few of the Indians who inhabit this part of America reside on almost every estate, and are employed in various services, particularly in hunting and fishing. According to papers relative to the West Indies, ordered by the House of Commons to be printed, the population of Berbice, exclusive of Indians, was as follows in 1811: whites, 550; coloured, 240; negroes, 25,169: total, 25,959. In 1825 the slave-population amounted to 21,464 souls.

Revenue and Commerce.] The revenue of the colony is raised by a capitation-tax on the white and black inhabitants, an excise on every 50 pounds of sugar made, a weighage-toll of about 2 per cent. on all exports and imports, and a tonnage-duty of three florins per last on the burden of ships. The estimated value of its exports to the United Kingdom, in 1812, according to Colquhoun, was £306,490; and to all other parts, £28,971. The estimated value of its imports from the United Kingdom was £93,468; and from all other parts, £35,149. In 1809 the colony exported 17,665 cwt. of cocoa; and in 1810, 22,582 cwt. In 1809, the exportation of cotton was 1,874,195 lbs.; and in 1810, 1,656,057 lbs. In 1823, 74,221 gallons of rum, 56,000 cwt. sugar, and 18,537 lbs. of coffee, were imported into Great Britain from Berbice.

This colony was captured from the Dutch in 1803, and confirmed to Great Britain at the general peace in 1814.

UNITED COLONY OF DEMERARA AND ESSEQUIBO.] The tract comprehended in this united settlement is of much larger extent than that of Berbice. It extends from the Abarry creek, by which it is divided from Berbice, to Cape Nassau,—a space of above 100 miles of direct distance along the coast. Its interior boundaries are not so easily determined. From the sources of the Demerara to those of the Guiana, or great western branch of the Essequibo, the interior extent from E. to W. is 360 British miles. The extent, however, is still larger, if the whole course of the river Essequibo be included, which, in a direct line, is at least 420 British miles from S. E. to N.W.; or, if a line be drawn from the supposed source of the Essequibo in the most southern angle of the Tumucurag mountains to those of the Guiana, in the angle formed by the junction of the mountains of Usupama and Itamac, the length will exceed 630 British miles from S. E. to N.W. The medial breadth may be estimated at 150 British miles from S. to N., or from the sea to the mountains.

Rivers.] The chief rivers of this united colony are the *Essequibo* and the *Demerara* The former is the largest of all the streams that descend from the mountains of Guiana into the Atlantic between the mouths of the Maranon and those of the Oroonoko. It is composed of two main branches, the *Essequibo* from the S. E. and the *Guiana* from the S.W., which join together at the direct distance of 70 British miles from the sea. The Essequibo is the larger stream, coming from a remote angle of the Tumucurag mountains, in N. lat. 1° 30′, and by which it is separated from the sources of the Rio dos Trombetos which flows in an opposite direction to the Maranon. The *Ripunuwine*, a tributary of the Essequibo, rises in the mountains of the Mao, a river which falls into the *Parima* or *White river* which joins the Rio Negro from the W. The Guiana, or S.W. branch of the Essequibo, rises in N. lat. 8°, in the angle formed by the junction of the mountains of Usupama and Itamac, which separates it from the course of the *Oroonoko* on the N., and that of the *Caroni* on the E., and at a short distance to the S. of the confluence of these two streams. The course of the Guiana river is through a large plain, or rather valley, bounded on every side by mountains, except to the E., extending 280 British miles in length, and expanding from 70 to 150 British miles in breadth. All the waters of this extensive valley discharge themselves into the Guiana, which may be denominated its chief trunk or grand drainer. The Demerara, though a large stream, is but a streamlet compared to the Essequibo. Its course is from S. E. to N.W., not exceeding 100 miles in direct distance from the sea to where it ceases to be navigable. Beyond the falls—which do not exceed two feet—it branches out into two streams, one coming from the S.W. and another from the S. E.; but the exact source of these two branches is unknown, the river not having been explored beyond the falls, which is its extreme navigable point. At its entrance, the river is a mile and a half broad, and sheltered from every wind; it is never visited by those tremendous hurricanes so frequent in tropical climates, and so destructive in the West India islands, and here forms one of the finest harbours in the world, which could with ease contain the whole navy of Great Britain. Unfortunately, however, a bar of sand stretches across its mouth, over which no vessel drawing more than 9 feet water can pass until half-flood, at high water in spring-tides, when the bar is covered to the depth of 18 feet, but still requires very cautious navigation. The river is muddy, and very brackish in the lower part of its course; but from the sand-hills to the falls it is fresh, and the colour of its waters very clear.

General Aspect.] The scenery along the banks of the Demerara, though uniform, like that of Berbice, is nevertheless pleasing. The regular ranges of plantations on every side,—dwelling-houses built close to the stream,—buildings of various descriptions scattered without order in all directions,—on the sugar-estates, mills driven by wind, by water, or by cattle,—on the coffee-plantations, *logies* (or barns) three stories high,—form a very beautiful and picturesque prospect; while boats continually sailing up and down the river give animation to the scene, and afford a favourable idea of the industry of the inhabitants. Farther up the rivers of Demerara and Essequibo, the aspect of the country becomes more wild and varied, and is not so uniform as upon the coast. Little else, however, is still seen but wood and water. No rich, varied, or striking prospect is presented from any quarter,—water and crowds of trees form the universal scene. Whether in a valley or upon a hill, the view is the same, being confined by the immediate presence of a woody circle; no opening, no rich extended landscape is seen; all is forest and river, river and forest; or if a wide plain opens to view, it is only a broad and flat surface, a vacant savannah still encircled with wood, and wholly devoid of picturesque scenery. These remarks only hold with regard to the Demerara river, and it is perhaps probable that the same uniform appearance may not be presented in the large valleys of the Essequibo and the Guiana. Perhaps we say, for these valleys have not been yet explored by the curious eye of science. Until, in process of time, the colony has increased in population, and extended itself far into the interior, no accurate geographical knowledge of it is to be expected. It must be remembered that more than a century and a half had elapsed after North America was begun to be colonized, before European curiosity was gratified with a view of the immense regions beyond the Alleghany mountains.

Physical Divisions.] The whole of the tract possessed, or in future to be possessed, by this united colony, may be divided into four parts, namely: the coast,—the lower courses of the Essequibo and Demerara rivers,—the valley watered by the Guiana, and that watered by the Upper Essequibo. The coast only, and the lower courses of the Essequibo and Demerara, are brought under cultivation, and as yet but partially. The large, and, very probably, the fertile valley of the Guiana, is separated on the W. *from Spanish Guiana, or the valley of the Caroni,* by the mountains of Usupama; and on the N. by *the mountains of Itamac, which separate it from the valley and delta of the Oroonoko.* This valley comprehends an immense tract of excellent land. The valley of the Essequibo is of equal, if not larger dimensions, being separated from the valley of the Mao, in Spanish Guiana, by the mountains of that name on the W., and by the mountains of Tumucurag from Portuguese Guiana on the S.; Surinam and French Guiana bound it on the N. E. and E.

Soil, &c.] From the description of the interior tracts watered by these streams, it is perfectly obvious that a very small portion of British Guiana is yet subjected to the labours of the industrious planter; and that an immense field of future agricultural and colonial industry is thus opened to view. At no very distant epoch, British Guiana, including Berbice, may eventually become of much greater consequence than all the British West India islands put together. The soil is superior to that of the West Indies; and in many of the latter islands we know that the soil, at first fertile and productive, is now barren and unproductive, being completely worn out. If we add to this, that no hurricanes visit this favoured coast, and that consequently the planters, in addition to much greater fertility of soil, are not subjected to sudden losses, in shipping, buildings, and produce, it need not occasion surprise that these colonies are fast rising into importance. That mischievous insect called the *borer*, which in the islands so often destroys the canes, is not known here; nor are those droughts so frequent in the West Indies, and so injurious to the crops. The temperature is much more salubrious and agreeable: the flatness of the surface allowing a free and uninterrupted course to the genial trade-winds that blow across the Atlantic, and which are scarcely ever absent during the whole year. The depth of the soil is generally 12 feet on the coast, and it is so prolific as to produce 30 successive crops of rice. The numerous canals by which the flat country on the coast is alternately drained, being annually scoured, the mud brought down by the waters from the woods, thus removed, forms a coating of manure, and equally serves to raise and enrich the soil. The soil is thus as it were continually renewed, and is never suffered to wear out.

Plantations.] The plantations along the Demerara, and in other parts of the united colony, were surveyed, and laid out in portions of 500 acres, by the Dutch West India company, with a conditional grant of as much more behind the former, when two-thirds of it should be cultivated. To this grant all the estates on the Demerara are now entitled. Every plantation has a wharf or landing-place opposite to the dwelling-house; and is surrounded with canals and sluices for the double purpose of draining all superfluous moisture from the land, and of harbouring boats while they are loading and discharging. Every estate is thus completely insulated; and for the convenience of travellers, a bridge is thrown over the canals on each side, which the proprietor is obliged to keep in repair, and to have painted white, in order to be discernible in the dark.—The commercial articles cultivated are sugar, coffee, and cotton, with some cocoa and rice. The annual average of the eight best cotton-estates in the beginning of this century was, according to Pinckard, about 60,000 lbs. each. In the cultivation of this plant, one prime negro is considered as sufficient stock—in the language of planters—for two acres of land. The average number of cotton-bushes planted upon an acre is 600; and each bush is calculated to produce eight ounces of cotton. The requisite proportion of stock for an estate cultivated with coffee is two negroes to three acres of land. The number of coffee-bushes usually planted is 150 per acre. Each bush is calculated to produce 24 ounces of coffee. The cultivation of sugar is the most expensive, and requires considerably the greatest proportion of live stock, one prime negro being necessary to every acre of land. The average value of a sugar-plantation is £50 sterling per acre, being 2000 lbs. of sugar at 4*d.* per lb. and rum in proportion. Eighty gallons of rum are expected from every hogshead of sugar; and the Demerara rum has a richness of flavour, which gives it as high a preference in the American markets as Jamaica rum has in this country. The articles cultivated for home-subsistence are plantains, rice, and cassava. Though the cultivation of rice has been but recently introduced, no doubts are entertained of its success; and it was hoped that, if encouraged by government, it would rival that of South Carolina. The live stock on a Demerara estate consists chiefly of poultry, with a few sheep, oxen, and swine. Rearing stock for the markets, particularly horned cattle, is very profitable here; and the fine savannahs in the interior afford such excellent pasture that there is every reason to hope these colonies will in a short time rear such vast numbers of cattle as shall prove an abundant source of wealth to the grazier, and an unfailing supply to the West India islands, and render them independent of supplies from the United States of North America. From the immense woods of Guiana, a never-failing supply in lumber might also be had,—a trade which has hitherto been so profitable to the North Americans.

The only great inconveniences attending a residence in these colonies, are the want of good water,—the occasional excessive heats,—the diseases incident to a tropical clime,—and the vast myriads of insects with which man has to contend in these regions. The river water is brackish for many miles from the coast; there are no springs, and wells would only supply a water that could not be used. Though the canals bring fresh water in great plenty from the woods, yet it is so strongly impregnated with infused leaves and other vegetable matter as to be both very unpleasant to the eye and the palate. The only remedy for this evil is that of preserving the rain-water, and accordingly tanks or cisterns have been constructed for this purpose on almost every estate. The rain-water is sometimes preserved by families in large earthen jars, in which, with much care, it is kept good during the whole of the dry season. Those who are not possessed of tanks or jars must either content themselves with the strongly macerated infusion of the forests, called *bush-water*, or send parties many miles with boats and casks for fresh water from the distant streamlets that descend to the rivers.

Insects.] The swarms of insects and reptiles which infest this country may serve to convey to an inexperienced European a tolerable notion of some of the plagues of Egypt. "In truth, (says Pinckard,) the general buzzing, the biting, stinging, creeping, and crawling of these tormenting objects, distress me far more than the heat, or any apprehension of disease. We are bitten, stung, or over-run by day and by night, and exposed to incessant pain and discomfort, unless constantly upon the watch, or carefully protected by some defensive covering, being perpetually beset with myriads of flies, ants, musketoes, cockroaches, lizards, Jack Spaniards, (a large species of wasps,) fireflies, centipedes, &c., which, in addition to their bites and stings, fly in our faces, crawl about our persons, and make an intolerable buzzing in our ears. In an evening, and particularly after rain, the confused noise of these humming hosts is peculiarly disagreeable. It conveys the idea of breathing in an atmosphere of sounds, or amidst one vast animated hive, where every created insect joins in full chorus; the enormous frog of the country croaking the bass in a voice resembling in some degree the bellowing of an ox." After such testimony, the reflections of an Edinburgh reviewer on the subject of Demerara entomology, will not appear exaggerated, and are too lively to be here omitted. "Insects are the curse of tropical climates. The *bête rouge* lays the foundation of a tremendous ulcer. In a moment you are covered with ticks. *Chigoes* bury themselves in your flesh, and hatch a large colony of young chigoes in a few hours. They will not live together, but every chigoe sets up a separate ulcer, and has its own private portion of pus. Flies get entry into your mouth, into your eyes, into your nose; you eat flies, drink flies, and breathe flies. Lizards, cockroaches, and snakes, get into the bed; ants eat up the books; scorpions sting you on the foot. Every thing bites, stings, or bruises; every second of your existence you are wounded by some piece of animal life that nobody has ever seen before, except Swammerdam and

Meriam. An insect with eleven legs is swimming in your teacup, a nondescript with nine wings is struggling in the small beer, or a caterpillar with several dozen eyes in his belly is hastening over the bread and butter! All nature is alive, and seems to be gathering all her entomological hosts to eat you up, as you are standing, out of your coat, waistcoat, and breeches. Such are tropics. All this reconciles us to our dews, fogs, vapours, and drizzle—to our apothecaries rushing about with gargles and tinctures—to our old, British, constitutional cough, sore throats, and swelled faces."

Forests.] "Mr Waterton"—to continue the analysis of the lively critic—"complains that the trees of Guiana are not more than six yards in circumference,—a magnitude in trees which it is not easy for a Scotch imagination to reach. Among these, pre-eminent in height rises the *mora*, —upon whose top branches, when naked by age, or dried by accident, is perched the toucan, too high for the gun of the fowler;—around this are the green heart, famous for hardness; the tough *hackea;* the *ducalabali*, surpassing mahogany; the ebony and letter-wood, exceeding the most beautiful woods of the Old World; the locust-tree, yielding copal; and the *hayawa* and *olou trees*, furnishing sweet-smelling resin. Upon the top of the mora grows the fig-tree. The bush-rope joins tree and tree, so as to render the forest impervious, as, descending from on high, it takes root as soon as its extremity touches the ground, and appears like shrouds and stays supporting the mainmast of a line of battle ship.

Ornithology.] "Demerara yields to no country in the world in her birds. The mud is flaming with the scarlet curlew. At sunset, the pelicans return from the sea to the courada trees. Among the flowers are the humming-birds. The columbine, gallinaceous, and passerine tribes, people the fruit-trees. At the close of day, the vampires, or winged-bats, suck the blood of the traveller, and cool him by the flap of their wings. Nor has Nature forgotten to amuse herself here in the composition of snakes: the *camoudi* has been killed from 30 to 40 feet long; he does not act by venom, but by size and convolution. The Spaniards affirm that he grows to the length of 80 feet, and that he will swallow a bull; but Spaniards love the superlative. There is a *whipsnake* of a beautiful green: the *labarri* snake of a dirty brown, who kills you in a few minutes. Every lovely colour under heaven is lavished upon the *counachouchi*, the most venomous of reptiles, and known by the name of the *bush-master.* Man and beast, says Mr Waterton, fly before him, and allow him to pursue an undisputed path. We consider the following description of the various sounds in these wild regions as very striking, and done with very considerable powers of style: "He whose eye can distinguish the various beauties of uncultivated nature, and whose ear is not shut to the wild sounds in the woods, will be delighted in passing up the river Demerara. Every now and then, the *maam* or *tinamou* sends forth one long and plaintive whistle from the depth of the forest, and then stops; whilst the yelping of the toucan, and the shrill voice of the bird called *pi-pi-yo*, is heard during the interval. The *campanero* never fails to attract the attention of the passenger; at a distance of nearly 3 miles, you may hear this snow-white bird tolling every four or five minutes, like the distant convent bell. From 6 to 9 in the morning the forests resound with the mingled cries and strains of the feathered race; after this, they gradually die away. From 11 to 3 all nature is hushed as in a midnight silence, and scarce a note is heard, saving that of the campanero and the pi-pi-yo; it is then that, oppressed by the solar heat, the birds retire to the thickest shade, and wait for the refreshing cool of evening. At sun-down the vampires, bats, and goat-suckers, dart from their lonely retreat, and skim along the trees on the river's bank. The different kinds of frogs almost stun the ear with their hoarse and hollow sounding croaking, while the owls and goat-suckers lament and mourn all night long. About two hours before day-break, you will hear the red monkey moaning as though in deep distress; the houtou, a solitary bird, and only found in the thickest recesses of the forest, distinctly articulates, 'houtou, houtou,' in a low and plaintive tone, an hour before sun-rise; the maam whistles about the same hour; the hannaquoi, pataca, and maroudi, announce his near approach to the eastern horizon, and the parrots and paroquets confirm his arrival there."

Population, &c.] The colonial population consists of three classes, whites, mulattoes, and negroes. Of these, the two former are free. The number of negroes belonging to the united colony amounted, in 1798, to 55,000; in 1806, to upwards of 80,000; and in 1826 to 71,382. As to the condition and state of this latter class, these depend much upon the temper and disposition of the individual planters. According to Pinckard, in the great majority of cases, the slaves were most cruelly used by their Dutch masters. Previous to the abolition of the slave-trade, in 1807, the importation of slaves into this settlement and that of Berbice was immense, more perhaps than the numbers imported into all the West India islands put together. The rapid increase of colonial agriculture, and the shoals of planters abandoning the islands and coming thither, were the proximate causes of such great importations. Now that the slave-trade is abolished, the planters must have recourse to the breeding system, which will of itself prevent the over-working and brutal treatment of the slaves, in a great degree at least, and ameliorate their future condition. The orders in council of 2d February, 1830, if observed, will also materially improve the condition of the slaves in this colony.

As to the character of the colonial population, it is much the same with that in the West Indies, or in the southern United States. The planters are exceedingly hospitable to strangers, and fond of the pleasures of the table. Pinckard says, the Dutch planters are good eaters, and exceedingly fond of the jolly god. The women, especially, rival their husbands in these respects. Previous to the capture of the united colony of Demerara and Essequibo, neither there nor in Berbice was there so much as a single church or burying ground. Since the conquest of these Dutch colonies, (Surinam excepted, which was restored to its former possessors,) something like the form of religion has been established, churches have been erected, clergy provided, and missionaries from different religious persuasions have been sent to this country.

Commerce.] The commerce of this united colony has of late years greatly declined. The total produce of the united colony of Demerara and Essequibo, for 1816, was returned at, sugar, 44,030,381 lbs; rum, 1,956,395 gallons; coffee, 11,683,647 lbs; cotton, 3,818,512 lbs. In 1823, this country exported to Great Britain only, 607,807 cwt. of sugar, 54,147 cwt. of coffee, and 941,194 gallons of rum.

Towns.] The capital of Demerara is *Stabroeck*, situated at a mile's distance from the mouth of the river, which is defended by a fort. Stabroeck is composed of two long rows of houses built very distant from each other, with a wide green in the middle by way of street. It is more than a mile long, running in a line from the river back to the forest. The form of the town (says Pinckard) is the most inconvenient that could have been contrived, as it throws most of the houses far away from the river, and deprives them of the great advantages for trade which they might otherwise have had by erecting the houses parallel with its course. To remedy this defect, canals and ditches have been cut at the backs of the houses, which are perhaps the worst possible neighbours the inhabitants could have near them, for, being filled with mud and all the filthy drainings of the town, and only partially emptied by the reflux of the tide, they become highly offensive, and tend to generate disease. A causeway of brick runs through the whole length of the town; but the carriage-way, as well as the road from the town to Fort William Frederick, is merely clay and mud, and is almost impassable in the wet season. The houses are built of timber, on a brick foundation, two stories high, and painted, or rather bedaubed with white. The other towns, or rather villages, are: *Kingston*, a British village, founded in 1796; *Le Bourgade*, a range of warehouses; *Koningsburgh*, a town regularly built, and two miles in circumference; *Bridgetown* and *Newtown*, and the village or town of *Werken Bust*. The fort of Essequibo is situated 70 British miles in direct distance from the sea. Up the river, immediately below the confluence of the Guiana and Essequibo rivers, N.W. of the Essequibo, and nigh the coast, is the fort of *New Middleburg*. On the boundary line of Spanish Guiana, and nigh the Oroonoko, is the fort of *Moroko*, attacked (but without success) by the Spaniards, during the late war, in 1798.

Historical Notice.] Demerara, originally settled by the Dutch, is of later growth than Berbice, which was made a colony as early as 1626. But the progress of Demerara has been much more rapid than that of its sister-settlement, especially since its capture, and subsequent cession to Great Britain; and it is now divided into four districts, all under the superintendence of British planters. Its capture by the British took place in 1796, when a number of adventurers, both from the islands and Great Britain, flocked to it. Along with Essequibo, it was rashly and foolishly restored to the Dutch in 1801, after several millions of British money had been expended, both by British planters and merchants, in improvements and purchases. This cession was a very serious loss, and was one of those articles of the treaty of Amiens which occasioned great regret and discontent. They were, however, retaken in 1803, and secured to Britain at the peace of 1814. The settlement of Essequibo, immediately adjoining Demerara to the N.W., and lying alongst the banks of the Essequibo, is a colony of much later date than Demerara, its settlement being begun in 1742, since which it has advanced with rapid strides, and is now of equal value and importance with Demerara, to which it is united.

INDEPENDENT TRIBES.] The aboriginal tribes which inhabit this part of the Guiana coast are the *Arrowacs*, the *Accowaws*, the *Worrows*, and the *Caribbs*. The last inhabit the banks and valley of the Guiana river, at a considerable distance from the coast and the British settlements. The Arrowacs are supposed to have been the progenitors of that comparatively mild and peaceful race which inhabited the larger islands of Jamaica, Cuba, and Hispaniola, at the time of Columbus's first voyage. They are classed by the Spanish writers as a branch of the Caribbs, which is not very probable, as they are neither so tall, strong, courageous, nor cruel, as that sanguinary race. They are seated on both banks of the Essequibo and those of the Upper Demerara. They are represented both by Stedman and Pinckard as comparatively peaceful and mild, given to great cleanliness in their persons, swift of foot, and excellent marksmen, but lazy, capricious, volatile, and possessed of no curiosity. They are honest and grateful; live on friendly terms with the settlers, except when provoked to war. They do not devour their captives, like the inhuman Caribbs, but treat them with great kindness. They are most excellent swimmers; both sexes performing this favourite exercise with great ease and agility. Stedman saw them thus employed, and represented them as totally different from the other tribes which he had seen. The Arrowacs are such expert shooters with the bow that they will kill a macaw or a pigeon in full flight. They descend the Essequibo and Demerara in large canoes, upwards of 40 feet in length. They are well versed in the medicinal uses of herbs, and cure their own maladies with tolerable skill. They believe in a Supreme Being, and in an inferior evil spirit called *Yawahoos*. Their priests are called *Peiis*, and are magicians bearing some affinity to the *Payes* of the Brazilian Tupinambas.[1] The Indians are termed *Bucks* and *Buckeens*, by the colonists; the former appellation being applied to the males, and the latter to the females. The Arrowacs wear no clothing, except a band tied round the waist and brought between the legs to fasten before, and which is used both by men and women. Some who have visited the colonists have it made of blue cloth, while others have it made of the bark of a tree. Sometimes, instead of this band, the women, or buckeens, use a small apron, about three or four inches square, which being tied round the waist, and left to hang loose before, serves by way of a fig leaf. These aprons they call *kway*. Among those who have associated with the colonists, the kway is sometimes made of small beads of different colours ingeniously strung on threads of cotton, or of the silk grass, so as to give them the appearance of being woven in a variety of figures. This is used as high dress, and is much valued. From their inactivity, the Indians are generally corpulent, which gives them a certain smoothness of form and surface, but their skins have not the velvet softness so common to the Negroes. Their bodies are perfectly free from hair. Imagining it not to be becoming to have any hair, except on the head, they habitually pull it off from the chin, the breast, the armpits, and other parts. The general smoothness thus given to the surface, has led travellers, ignorant of the cause, into the mistake of considering this smoothness of skin to be natural to them, and hence has arisen the strange opinion prevalent among writers of a certain class, that they are a peculiar species of human beings, and of a different race from Europeans. From the heat of the climate, and the facility of procuring food, the Indians of British Guiana are remarkably indolent. Labour, simply considered, is nowhere a natural impulse; in every quarter of the habitable globe, its great incentive is necessity, interest, or ambition,—the effect of our real or imaginary wants. Among these natives of the woods, labour results from necessity alone, and ceases with the immediate occasion which produced it. As amongst other savage tribes, the men are very arbitrary and despotic towards their women. Polygamy is practised among them. Each man takes as many wives as he can conveniently maintain. All the domestic labours are done by the females; and in their wanderings from place to place, they are made to toil under the burden of whatever they may have to transport, while their imperious lord marches on majestically before them, and unencumbered. From this rigid treatment by their husbands, the women appear reserved and melancholy. They commonly sit with their backs towards strangers, and remain profoundly silent when the husbands are present. In their absence, they show less restraint, and seem more disposed to cheerfulness and vivacity.

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[1] From frequently seeing parties of Indians and Negroes standing naked together, Pinckard was enabled to remark a striking difference in their figure. The Negroes have longer necks and a finer fall of the shoulders. The chest is not so full and open. Their limbs are not so stout, but longer and thinner in proportion to their body. The form of the Arrowak Indians appears close and compact, while that of the Negroes is more loose and slender, and more indicative of the heat and languor of climate. The projecting curvature of the tibia, or leg, so common to the Africans. does not prevail.

The following account from Pinckard, of a visit paid at the fort of Berbice, from an Indian family, as it exhibits a complete view of their household stock and internal establishment, is worthy of being transcribed. "This family came to us in the true style of native accommodation, exhibiting the full equipage of the family canoe, and forming a scene of high interest and novelty. Before the canoe reached the fort, we observed the long black hair and naked skins of the man, his two wives, and several children, who were all seated about the vessel with the strictest attention to equipoise, trimming it most neatly. The cargo was large; and, in addition to the family, was loaded with cedar and other kinds of wood, for sale or barter. On the top of the cargo appeared a ferocious looking animal, setting up his bristles like the quills of a porcupine. It was a species of hog, caught in the forest, and hence called a bush hog. A small monkey was also skipping about the canoe. At one side sat two very fine parrots, and on the other was perched a large and most beautiful mackaw, exhibiting all the rich splendours of his gay plumage. On the canoe arriving at the landing place, the bow and arrows, the clay cooking vessel, calabashes, hammocks, and crab baskets, were all brought into view; and we gazed on the whole as forming a very complete and striking specimen of original equipage and accommodation. The whole family—the household apparatus—the bow and arrows—the canoe and paddles—the hammocks—in short, all the furniture and implements for cooking, sleeping, shooting, fishing, and travelling, were here moved together in one complete body, as to render it indifferent to them whether they should return to the home whence they came, or take up a new abode in any other part of the forest."

Maroons.] Besides the Indian natives, the woods at the back of the settlements are haunted by bush negroes, called Maroons in the West Indies. These are runaway and revolted negroes, who have these impervious forests as their hiding places, from whence they make incursions into the settlements for the sake of plunder and revenge, committing at times dreadful ravages, so that it has become necessary to form a regular militia, and to have some military constantly ready to protect the settlements from their depredations, and to explore the woods and find out their haunts. From their numbers, discipline, and perfect acquaintance with every part of the forest in the vicinity, it has hitherto been found impossible either to expel or root them out. Several detachments sent out against them, ignorant of forest warfare, have been completely cut up. It is impossible to state their numbers; but they are represented as bloodthirsty, ferocious, and savage, and have at different times threatened the total destruction of the colony, particularly of the whites. It is fortunate for the colonists that the Arrowacs are their friends, and detest negroes. As they are perfectly acquainted with the most concealed recesses of the forest, and are possessed of an acuteness of vision, smell, and hearing, far beyond the whites, they have been of material service in enabling them to trace out the bush-negroes. This is one of the results of the slave-system, and will not be removed till the woods be cleared by increasing cultivation, and an amelioration of the condition of the slaves.

Macoushi Indians and Wourali Poison.] In the wilds of Essequibo there is a tribe of Indians known by the name of *Macoushi.* The *Wourali* poison is used by all the South American savages, betwixt the Amazon and the Oroonoque; but the Macoushi Indians manufacture it with the greatest skill, and of the greatest strength. A vine grows in the forest called Wourali; and from this vine, together with a good deal of nonsense and absurdity, the poison is prepared. When a native of Macoushia goes in quest of feathered game, he seldom carries his bow and arrows. It is the blow-pipe he then uses. The reed grows to an amazing length, as the part the Indians use is from 10 to 11 feet long, and no tapering can be perceived, one end being as thick as another; nor is there the slightest appearance of a knot or joint. The end which is applied to the mouth is tied round with a small silk grass cord. The arrow is from nine to ten inches long; it is made out of the leaf of a palm-tree, and pointed as sharp as a needle: about an inch of the pointed end is poisoned: the other end is burnt to make it still harder, and wild cotton is put round it for an inch and a half. The quiver holds from 5 to 600 arrows, is from 12 to 14 inches long, and in shape like a dice-box. With a quiver of these poisoned arrows over his shoulder, and his blow-pipe in his hand, the Indian stalks into the forest in quest of his feathered game. These generally sit high up in the tall and tufted trees, but still are not out of the Indian's reach; for his blow-pipe, at its greatest elevation, will send an arrow three hundred feet. Silent as midnight he steals under them, and so cautiously does he tread the ground, that the fallen leaves rustle not beneath his feet. His ears are open to the least sound, while his eye, keen as that of the lynx, is employed in finding out the game in the thickest shade. Often he imitates their cry, and decoys them from tree to tree, till they are within range of his tube. Then taking a poisoned arrow from his quiver, he puts it in the blow-pipe, and collects his breath for the fatal puff. About two feet from the end through which he blows, there are fastened two teeth of the acouri, and these serve him for a sight. Silent and swift the arrow flies, and seldom fails to pierce the object at which it is sent. Sometimes the wounded bird remains in the same tree where it was shot, but in three minutes falls down at the Indian's feet. Should he take wing, his flight is of short duration, and the Indian, following in the direction he has gone, is sure to find him dead. It is natural to imagine that, when a slight wound only is inflicted, the game will make its escape. Far otherwise; the wourali poison instantaneously mixes with blood or water, so that if you wet your finger, and dash it along the poisoned arrow in the quickest manner possible, you are sure to carry off some of the poison. Though three minutes generally elapse before the convulsions come on in the wounded bird, still a stupor evidently takes place sooner, and this stupor manifests itself by an apparent unwillingness in the bird to move. The flesh of the game is not in the slightest degree injured by the poison; nor does it appear to be corrupted sooner than that killed by the gun or knife. For the larger animals, an arrow with a poisoned spike is used. Thus armed, says Waterton, with deadly poison, and hungry as the hyæna, he ranges through the forest in quest of the wild beasts' track. No hound can act a surer part. Without clothes to fetter him, or shoes to bind his feet, he observes the footsteps of the game, where a European eye could not discern the smallest vestige. He pursues it through all its turns and windings, with astonishing perseverance, and success generally crowns his efforts. The animal, after receiving the poisoned arrow, seldom retreats 200 paces before it drops.

Traditions Concerning El Dorado.] "The state of ignorance and barbarism in which Europeans found different tribes, has made some regard as fabulous," says Malte Brun, "the traditions concerning the existence of a country abounding in gold, and situated in the interior of Guiana. Many Spanish and English adventurers attempted to visit this new region and its capital, *El Dorado* and *Manoa.* It was even affirmed that there were in Manoa temples and palaces covered with gold. A German knight, Philip de Hutten, set out, about the year 1541, with a small band of Spaniards from Caro on the coast of Caraccas. He came within sight of a town inhabited by the Omegas, the roofs shone as if they had been overlaid with gold; but the land was so ill cultivated that his men had difficulty in obtaining provisions. The bold knight being defeated by the Omegas determined to return against them with a greater force; but he perished by the hands of an assassin, while he was preparing to carry his project into effect. It is not impossible that the enthusiastic German may have mistaken rocks of talc for roofs of gold, and the Omegas may have been confounded with the Omaguas, a warlike people on the banks of the Amazons, who have made some progress in civilization. The Peruvian missionaries tell us that Manoa is a small town on the banks of the Ucayal. Should it however be thought unlikely that Philip de Hutten ever penetrated into the country of the Omaguas, the story might be explained independently of this objection. The Indians of Guiana may have had some obscure notions concerning the empire of the Incas, their lake Titicaca, their temples and palaces adorned with gold. The exaggerated and erroneous accounts which the German received, might have misled the Spaniards and induced them to go in quest of a region which they already possessed. At all events, few of the minerals hitherto observed in Guiana are metalliferous, and there is not much reason to believe that El Dorado will ever be found in the interior of that country."

WEST INDIA ISLANDS.

"THERE is a group of islands," says Malte Brun, "in the form of an arch between the two continents of America. Those opposite the American coast were first called *Antilles*, and that name has been since applied to the whole of them. '*Dicuntur Antilæ Americæ, quasi ante insulas Americæ, nempe ante insulas sinus Mexicani.*' They have been vaguely denominated the *West Indies*, from the term *India* originally given to America by Columbus. That illustrious navigator planned his voyage in the expectation of finding a western passage to India shorter and less tedious than that by the coast of Africa. This undertaking might have been accomplished had the geography of the ancients, on which it was founded, been correct; but although the discovery of the Pacific ocean detected the fallacy of Columbus, the islands still retained their ancient name. To obviate this error, and to express our gratitude to that great man, these islands have of late years been called the *Columbian Archipelago.* They extend from the gulf of Florida to that of Venezuela, and are divided into the greater and the less,—Cuba, Jamaica, St Domingo and Porto Rico are called the *Great Antilles.* The English, the French and the Spaniards have affixed different meanings to the terms *Windward* and *Leeward Islands.* It is evident that the acceptation of this nautical phrase must depend on the position of the navigator, and on the tract which he proposes to follow.

Caribbean Sea.] "That part of the ocean between these islands, South America and the coasts of Mosquitos, Costa Rica and Darien, is called the *Caribbean sea.* It is navigated by trading vessels from most nations in Europe, and is remarkable on account of several phenomena. The first of these is the effect of a gentle motion impressed on the ocean by the equatorial currents from E. to W., and impelled towards the American continent through the openings in the chain of the Less Antilles. This uniform movement is not accompanied with much danger from the Canary islands to the mouth of the Oronoco. The ocean in these latitudes is so calm and so seldom subject to storms that the Spaniards have given it the name of the *Ladies' sea.* It must not, however, be imagined, that the motion is less rapid, because the waters are not agitated; the course of vessels is accelerated between the Canaries and South America,—a direct passage is rendered impracticable from Carthagena to Cumana, and from Trinidad to Cayenne."

These islands may be said, in general terms, to run in a S.E. direction from the coast of Florida, to the N.E. part of South America, forming a sort of interrupted barrier to the gulf of Mexico and the Caribbean sea. In other words, they describe nearly the diagonal of a parallelogram, of which the sides are the 59° and 86° of W. long., and the 10° and 20° of N. lat.; but this diagonal, it is to be remarked, is of very variable breadth; and there are several smaller islands in different parts of the neighbouring coasts which cannot be referred to it.[1]

Although, as already observed, these islands have received different names, which have been applied to them either considered in one assemblage, or as subdivided into particular groupes, according to their geographical position, or some other principle of arrangement, yet as the common term *West Indies*, though not indeed strictly proper, is abundantly extensive in signification to comprehend all the islands we shall describe, without any regard to the discordant sentiments of different writers in the application of the minor designations, we shall adopt it, and follow an arrangement partaking both of a political and a natural cast,—so far, in the latter case at least, as relates to locality and position; and to avoid unnecessary repetition, we shall embrace under our account of the principal islands, a variety of interesting information which applies with few exceptions—and these we shall state—to all the other islands. *Cuba*, *St Domingo*, and *Jamaica*, will therefore form prominent features in the present article.

Coasts, &c.] The coasts of the Antilles are in general rugged and highly elevated; where low they are bounded by thick swampy forests. In the former case the adjacent sea is open and of a great depth, so that an anchorage is practicable only very close to the shore, above a bottom of black sand or rock; in the latter the soundings show a muddy bottom, and the coral reefs compel ships to keep off the shore. This observation holds equally true of all the archipelago of the Antilles. The volcanoes to which these isles owe their origin, open their mouths chiefly towards the west, which side is rugged, and displays all the disorder incident to volcanic regions. Perouse was the first to remark the identity of their configuration with those of the coasts of the American archipelago. When one examines the long chain of volcanic islands of this archipelago, he will be at no loss to observe that their vast bays and ports are usually situated between two volcanoes. Such is the superb bay of Port Royal at Martinique, of Marino, of Kingston in Jamaica, and of Saint Christophe. There are some exceptions to this rule however. A grand lagoon now occupies the place of a bay which certainly anciently existed in the mouth of the Guaturani valley. At Martinique the alluvial plains formed in the bay and basin of Port Royal, at the embouchure of the Monsieur river, and of those of the Acajou, the Jambette Lamentin, Lezard, Manche, and Salée, announce by their rapid progress that in a few ages they will exhibit the effects observed at Trinidad, of closing up all access from the sea into these rivers. The great isolated rocks which shoot up in the sea at various distances around the Antilles, with a bold and picturesque aspect, have been formed by sub-marine volcanoes. The most remarkable are at Saint Lucia, le Gros-

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[1] In geography, we may notice, it is often convenient for the assistance of the imagination and memory, to start a strong idea of the relations of places, though a very accurate examination might forbid its precise adoption.

Ilet; at Martinique, le Diamant, the isle of Ramiers, the Devil's table, the isle of Saint-Aubin, the Caravelle, and the Perle; and at Guadaloupe, the isle of Goyave, the Caouenne, and the Grenada.

Rivers.] The rivers which flow from the cloud-capped summits of the mountains of the Antilles, descend in a series of cascades to the sea. In the little Antilles the course of a river is never below 1200 toises, nor above 6 or 7 leagues; but their depth is great, and their volume of water immense in winter. The proximity of the sun produces an immense evaporation from the Atlantic, under the equator, and then the rains swell the streams to a prodigious and overwhelming size; the declivity of these torrents may enable us to judge of their rapidity, it is 6 or 9 inches per toise in the least mountainous region of Guadaloupe. From barometrical observation it appears that the river Cazenavrie in Martinique must have a fall of more than 150 feet in 120 toises. At all other times but when swollen the rivers of the Antilles may be passed at the fords, and sometimes almost dry-footed over the pieces of lava with which their bed is strewn. The only rivers of the Antilles which are navigable are those which mingle freely with the ocean; such are the Salée and Lamentine of Martinique; and the Caroni of Trinidad, which may be mounted 6 leagues from its embochure in the gulf of Paria. The action of the numerous clouds gathered around the high mountains of the volcanic isles produces an immense number of streams: they amount in Guadaloupe, the principal, to more than 50. At Martinique 65 descend from six volcanic points. The lakes which are found in the most of the isles of the archipelago are the vestiges of ancient craters, or are contained between two projected basaltic currents. In the first case they occupy the conical or pyramidal summit of the mountains, presenting an elliptical basin. In the second their enceincture is an irregular polygon. They discharge themselves plentifully by subterranean as well as other fissures. In Guadaloupe we find the Grand-Etang, the Etang-Zombi, and the Amde-pique. At Martinique there are two, one on the summit of mount Pelée, an ancient crater, the other at the foot of the point Carbel. At Dominica, 2 leagues from Roseau, there is an extensive lake on the summit of a very high volcanic hill, which gives birth to several rivers; there is also a large pond in Grenada. The ponds found in the southern parts of these islands have neither the same aspect nor origin as those above mentioned. They are of a vast depth, communicating generally with the sea; and are called salt-pits, for the heat of the sun forms naturally in them muriate of soda by evaporation.

Vegetation and Climate.] The atmosphere of the Antilles resembles the African in its constitution more than the European. Hence, while European productions here degenerate, those of Africa attain singular luxuriance. The sugar-canes which now cover those islands came originally from one of the African islands,—the coffee from Arabia,—part of their alimentary plants from the coast of Guinea,—and the finest grapes of their savannahs, and flowers of their gardens from the same source. Their dates are those of Atlas, and from Senegal were transplanted those tamarinds whose thick shade suffocate the American trees with which they are surrounded. Their numerous race of Negroes too, originally brought from Africa, have usurped the place of the Aborigines. "Trees similar to those that we have admired in other tropical countries," says Malte Brun, "grow in equal luxuriance on these islands. The banana—which in its full growth appears like a cluster of trees, is at first weak, and requires the support of a neighbouring plant. A canoe made from a single trunk of the wild cotton-tree, has been known to contain a hundred persons, and the leaf of a particular kind of palm-tree affords a shade to five or six men. The royal palmetto or mountain-cabbage grows to the extraordinary height of 200 feet, and its verdant summit is shaken by the lightest breeze. Many of the plantations are enclosed by rows of Campeachy and Brazilian trees; the corab is as much prized for its thick shade as for its excellent fruit, and the fibrous bark of the great cecropia is converted into strong cordage. The trees most valuable on account of their timber, are the tamarind, the cedar, the Spanish mountain-ash, the iron-tree and the *laurus chloroxylon* which is well adapted for the construction of mills. The dwellings of the settlers are shaded by orange, lemon, and pomegranate trees, that fill the air with the perfume of their flowers, while their branches are loaded with fruit. The apple, the peach, and the grape ripen in the mountains. The date, the *sapata*, and *sapotilla*, the *mammee*, several oriental fruits, the rose-apple, the *guava*, the *munga*, and different species of *spondias* and *annonas* grow on the sultry plains. Botanists have observed on the wide savannas, the *Serpidium Virginense*, the *Ocynium Americanum*, the *Cleomis pentaphyllon*, and the *Turnera pumicea*. The coasts are shaded by *phyleria* and every species of acacia, particularly the Farnese which is remarkable for the beauty of its flowers. Opuntias and torch thistles cover the sides of the mornes or precipices, and the vine tree grows on the rocks in the neighbourhood of the shore. The woods abound in lianes, whose branches, entwined round the trees, form sometimes verdant galleries or canopies of flowers. *Silices arborescentes* grow to a great height, and soon arrive at maturity; the *polypodium arboreum*, which belongs to this class, may be mistaken at a distance for the palm-tree on account of its lofty trunk and the broad leaves on its summit. *Lignum vitæ*, *Wintera-canela*, *Cinchona Caribbea*, and other medicinal plants are imported into Europe."

The Sugar Cane.] Sugar is the great staple commodity of the West Indies. To this day, it is not exactly known what country the sugar-cane was originally imported from; however, it is generally believed, that it came from the East Indies. Either in the 12th or 13th century, it was transplanted into Sicily; from thence it was taken to the island of Madeira, then recently discovered by the Portuguese, where it was propagated, and the product was very successful. About the same time, the Spaniards introduced the cane into the Canary islands. Attempts were made to plant it in Provence, but they did not succeed. In the beginning of the 17th century, France had no sugar but what came from Madeira and the Canaries, but towards the end of the century, the English had monopolized this article of trade, and all the north of France was in general supplied with sugar from England. From the Canary islands, the cane was conveyed to the American continent and islands, and afterwards to Madagascar, to the coasts of Coromandel and Malabar, to Ceylon and Manilla, and, at length, even to Otaheite. The sugar-cane is propagated by grains or seed. There are several varieties of this plant; one of these is white, with a thin bark, and knots, at spaces five fingers in length; it is very productive both of juice and sugar. A second species is of a reddish colour; its knots lie nearer together; the bark is hard, and the product of sugar less considerable, but sweeter. In a third species, the stalk is not above an inch thick;

the bark is thin, the flutings are green, the knots very distant. This last has a very sweet taste, and yields a very great quantity of sugar. All the three grow ripe in nine or ten months' time.

The winter-season is the great vegetating season in the West Indian islands. The sap then circulates with activity and energy,—the trees are almost at the same instant covered with flowers and fruit,—the whole surface teems with animal life; mosses and lichens cover the walls, stramoniums of gigantic size and purple euphorbium spring up in the unfrequented paths, and gigantic agaves in the interior of habited apartments. This humidity M, de Jonnes attributes, *1st*, to the situation of the islands in the midst of a vast body of water, the daily evaporation from which amounts to more than 33 millions of tons of water for a degree square; *2d*, to the proximity of the different islands of the archipelago which form a chain of 200 leagues, disposed in the form of a right angle, the direction of which is towards the prevailing winds; *3d*, to the mineralogical mass of these islands, which exercises a superior influence on the atmosphere to such insulated solitary islands as Saint Helena, Ascension, or the isle of Paquas; *4th*, to the conflict between opposing currents of wind during the winter-season; *5th*, to the elevation of the mountains, which rise 300 or 400 toises into the region of the clouds, which hang during the rainy season at less than 2000 feet above the level of the sea, beginning from the 14th parallel; and, *6th*, to the conic or pyramidal form of the mountains, which sensibly augments their action on the electric clouds. The north wind blows here from November to February, and sometimes lowers the mercury of the thermometer to 16° of Reaumur, or 69° of Fahrenheit, and the needle of the hygrometer to between 60° or 70°. Its prevalence is marked by epidemic rheumatism and catarrhic affections. The south wind is warm and humid, it blows from July to October, but with less force and continuity than that of the north and east. It raises the thermometer to 28° of Reaumur and 95° of Fahrenheit. Its influence is dangerous and malignant; to it is attributable the exhalation from the marshes of Saint Lucia, and the elevation of the waters of the Oronoco, (Orénoque) which rise to the height of 39 or 41 feet, and inundate the country 200 leagues east to west. The east wind prevails in March, April, May, and June, resembling a good deal the north, to which quarter it generally more or less inclines; it is not so dry or warm, for in traversing the Atlantic it loses before reaching the Antilles a part of the heat it acquired in passing over the African deserts. During its continuance the climate is highly favourable to Creoles and Europeans. The west wind is the severest of all, and inclines more to the north than south. The seasons, however, alter with the winds, and are strictly confinable to two,—the dry season, from November to April, passing from south to east,—the wet, from May to October, passing from east to south.

Animals.] "It has been observed by travellers," says Malte Brun, "that most of the wild animals indigenous to the West Indies are of a small size, as the *Vespertilio molussus*, the *Viverra caudivolvula*, and the *Mus pilorides*. Lizards and different sorts of serpents are not uncommon; but the greater number of them are harmless, and, with the exception of Martinique and St Lucia, no scorpions are to be found in the Less Antilles. This noxious reptile is frequently observed in Porto Rico, and it exists probably in all the larger islands. The cayman haunts the stagnant waters, and Negroes are sometimes exposed to its murderous bite. The parrot and its various species from the macaw to the parroquet, frequent the forests; aquatic birds in unnumbered flocks enliven the shores. The *colibry* or humming-bird is the sportive inhabitant of these warm climes; it seldom remains long in the same place, but is seen for a moment on the blossoms of the orange or lime-tree, and displays in its golden plumage the brightest tints of the emerald and the ruby."

Population.] The following is Humboldt's estimate of the population of the West Indian islands at the end of the year 1823:

	Names of the Islands.	*Total Population.*	*Slaves.*
I.	BRITISH ANTILLES	776,500	626,800
	Jamaica	402,000	342,000
	Barbadoes	100,000	79,000
	Antigua	40,000	31,000
	St Christopher's, or St Kitt's	23,090	19,500
	Nevis	11,000	9,500
	Grenada	29,000	25,000
	St Vincent's and Grenadine's	28,000	24,000
	Dominica	20,000	16,000
	Mont Serrat	8,000	6,500
	The British Virgin Islands, Aneguda, Virgin, Gorda, and Tortola	8,500	6,000
	Tobago	16,000	14,000
	Anguilla and Barbuda	2,500	1,800
	Trinidad	41,500	23,500
	St Lucie	17,000	13,000
	Bahama Islands	15,500	11,000
	Bermuda Islands	14,500	5,000
II.	HAITI, FRENCH and SPANISH[1]	820,000	
III.	SPANISH ANTILLES	943,000	281,400
	Cuba	700,000	256,000
	Porto Rico	225,000	25,000
	Margarita	18,000	400
IV.	FRENCH ANTILLES	219,000	178,000
	Guadaloupe and its dependencies, Marie Galante, Deseada, and part of St Martin	120,000	100,000
	Martinique	99,000	78,000
V.	DUTCH, DANISH, and SWEDISH ANTILLES	84,500	61,300
	St Eustatia and Saba	18,000	12,000
	St Martin's	6,500	4,000
	Curacoa	11,000	6,500
	St Croix	32,000	27,000
	St Thomas	7,000	5,500
	St John	2,500	2,300
	St Bartholomew	8,000	4,000

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[1] Now independent.

CHAP. I.—BRITISH WEST INDIES.

A VALUABLE little work containing a great variety of statistical details, published by Mr Marshall of London, and entitled, 'Statistical Illustrations of the British Empire,' gives the following account of the territorial extent, imports into England, and slave population of the British colonial possessions in the West Indies and South America in 1823:—

COLONIES.	Territorial Extent in	Productions Imported from into GREAT BRITAIN, in 1823.			Number of Slaves.		
	Stat. Acres	Cwts. of Sugar.	Cwts. of Coffee.	Gallons of Rum.	Male.	Female.	Total.
1 Jamaica . . .	4,080,000	1,417,758	169,734	2,931,110	170,466	171,916	342,382
2 Demerara, S. Am.	1,000,000	607,870	54,147	941,194	43,227	34,149	77,376
3 Barbadoes . .	239,000	314,630	236	351	36,733	41,612	73,345
4 Grenada . . .	227,000	247,369	368	301,866	12 355	13,231	25,586
5 St Vincents .	279,000	232,577	53	80,439	12,007	12,245	24,252
6 Trinidad . . .	2,880,000	186,891	2,953	8,586	13,155	10,382	23,537
7 Antigua . .	256,000	135,466	none	28,241	14,454	16,531	30,985
8 Tobago . . .	204,000	113,015	Do.	309,829	6,952	7,363	14,315
9 St Kitts . .	38,400	76,181	Do.	42,944	9,505	10,312	19,817
10 St Lucia . . .	203,000	62,148	3,352	4,807	6,297	7,497	13,794
11 Berbice, S. Amer.	1,500,000	56,000	18,537	74,221	13,007	10,349	23,356
12 Nevis . . .	200,000	44,283	none	16,584	4,583	4,678	9,261
13 Dominica . .	230,000	39,013	17,136	14,310	7,919	8,636	16,554
14 Monserrat . .	11,000	24,466	none	42,943	3,032	3,473	6,505
15 Tortola . . .	80,000	21,583	Do.	16,168	2,975	3,485	6,460
16 Bermudas . .	30,000	3,415	769	218	2,505	2,671	5,176
17 Bahamas . . .	500,000	986	120	none	5,529	5,279	10,808
Tot. British Colonies	11,957,400	3,583,630	267,464	4,833,844	363,701	363,808	728,509
From Do. indirect.		15,296	4,628	30,937			
Foreign							
St Thomas . .	20,000		7,250				
St Domingo .	19,000,000		44,422	The power of production in these territories is unlimited; considerable quantities go direct to Europe on British, as well as on general account. From the 17 Brit. Colonies about 15,000,000 lb. of Cotton Wool, 2,000,000 lb. of Pimento, and various other articles are also imported.			
Cuba . . .	28,000,000	122,170	24,057				
Colombia .	vast but undefined		3,604				
Brazil . .		71,438	12,467				
BRITISH INDIA .		219,580	36,734				
Total import of Sugar and Coffee into Great Britain		4,012,144	400,626				
do. in addition do. do. into Ireland		190,809	17,223				

I. JAMAICA.] Jamaica lies about 100 miles to the S. of Cuba, and is the third in size of the West Indian islands, being inferior only to Cuba and St Domingo. Its extreme length seems to be about 160 miles, and its breadth 60; but according to some accounts, its length is only 120 miles, and its breadth 42,—while others state its dimensions higher,—and Mr Edwards makes its length 150, and breadth 40 miles. The latitude of Kingston, the principal town, is 18° N.; that of Morant Point East, is 17° 56′, and its long. 76° 5′ W.; the latitude of South Nigril Point is 18° 16′, and its long. 78° 32′. Jamaica has on the E. the island of St Domingo, from which it is separated by the channel called by British seamen the Windward Passage; Cuba on the N.; the bay of Honduras on the W.; and Carthagena on the S.

Physical Aspect.] Traversed by mountains in different directions, but particularly from E. to W.—plentifully watered by an immensity of small rivers and streams issuing from the high lands—beautifully adorned with many species of trees—and enjoying a climate more temperate and agreeable than its geographical position would indicate—this island undoubtedly merits distinction as one of the finest West Indian countries. Its general appearance differs from most parts of Europe; and the north and south sides of the island differ also as widely from each other. On the north shore, the country rises into hills more remarkable for beauty than for boldness, having a gentle acclivity, and being interspersed with vales and romantic scenery, but rarely broken abruptly or disfigured with craggy projections; their tops are nicely rounded, and covered with groves of pimento, whose fine deep tints are charmingly enlivened by the verdure of the turf, seen in a thousand openings beneath; and the effect is still farther heightened by the profusion of streams which pour from every valley.

and which frequently project themselves from the overcharging rocks into the ocean. At a greater distance inland, and overstepping these picturesque appearances, the land rises towards the centre of the island, displaying a still greater profusion of wood, till the hills at the extremity of the scene, becoming fainter and fainter, lose themselves in the clouds. The character of the southern side, on the contrary, is that of grandeur and sublimity. "When I first approached this side of the island by sea," says Mr Edwards, in his poetic language, "and beheld from afar such of the stupendous and soaring ridges of the Blue Mountains as the clouds here and there disclosed, the imagination (forming an indistinct but awful idea of what was concealed, by what was thus partially displayed), was filled with admiration and wonder. Yet the sensation I felt was allied rather to terror than delight. Though the prospect before me was in the highest degree magnificent, it seemed a scene of magnificent desolation. The abrupt precipice and inaccessible cliff had more the aspect of a chaos than a creation, or rather seemed to exhibit the effects of some dreadful convulsion, which had laid nature in ruins. Appearances, however, improved as we approached; for amidst ten thousand bold features, too hard to be softened by culture, many a spot was soon discovered, where the hand of industry had awakened life and fertility. With these pleasing intermixtures, the flowing line of the lower range of mountains, which had now begun to be visible, crowned with woods of majestic growth, combined to soften and relieve the rude solemnity of the loftier eminences; until at length the savannahs at the bottom met the sight. These are vast plains, clothed chiefly with extensive cane fields, displaying, in all the pride of cultivation, the verdure of spring blended with the exuberance of autumn: and they are bounded only by the ocean, in whose bosom a new and ever moving picture strikes the eye; for innumerable vessels are discovered in various directions—some crowding into, and others bearing away from the bays and harbours, with which the coast is every where indented." We should err, however, if, from such descriptions, or any conclusions drawn from the position of this island, we conceived it to be peculiarly delightful as a place of residence. The violent torrents of rain at certain seasons; the frequency of storms, tempests, and hurricanes, and the prevalence of thunder and lightning for half the year, greatly diminish the comfort and security of the inhabitants.

Climate.] The climate of Jamaica, even on the coast, is temperate; the medium heat at Kingston, throughout the year, being 80°, and the least 70°. In ascending towards the mountains, the temperature quickly alters with the elevation: 8 miles from Kingston, the maximum is only 70°. At the distance of 14 miles from that town, where the elevation is 4,200 feet, the average range of the thermometer is from 55° to 65°; and the minimum, in winter, 44°. On the summit of Blue Mountain Peak, 7,431 feet above the sea, the range in the summer is from 47° at sunrise, to 58° at noon; and the minimum in winter is 42°. The year may be divided into four seasons; the first commencing with the vernal or moderate rains, in April or May, which usually last six weeks; the second season includes June, July, and August, and is hot and dry; the third includes September, October, and November, or the hurricane and rainy months; and the fourth, December, January, February, and March, which are the most serene and coolest months.

Soil, &c.] The soil of Jamaica is in many places deep and fertile. On the north side, chiefly in the parish of Trelawney, there is a particular kind of soil of a red colour, the shades of it varying from a deep chocolate to a rich scarlet. In some places, it approaches a bright yellow; but it is everywhere remarkable, when first turned up, for a glossy shining surface, and for staining the finger like paint when it is wetted. It seems to be a chalky marl, evidently containing a large portion of calcareous matter, from the circumstance of its retaining water when formed into ponds, like the stiffest clay. What is called the *brick mould* in Jamaica, is a deep, warm, mellow hazel mould, with an under stratum, so retentive, as to retain a considerable degree of moisture even in the driest season. This, next to the ashy loam of St Christopher's, is the best soil in the West India islands for sugar-canes, and is followed by the deep black mould of Barbadoes. On the whole, however, the cultivated soil of Jamaica is not remarkably fertile. This island has upwards of 100 rivers, rising in the mountains, and running with great rapidity to the sea on both sides. Their rapidity, as well as the obstruction from rocks, renders them unnavigable by canoes. The deepest is the Black river, on the south coast, which flows gently through a considerable tract of level country, and is navigable by flat boats for 30 miles. There are some medicinal springs, warm, sulphureous, and chalybeate. The most remarkable of these is in the eastern parish of St Thomas, in the neighbourhood of which a village, called Bath, has been built. The heat of this spring raises the thermometer to 123°. It is said that the Spanish settlers once wrought mines both of copper and silver here; and one of lead was opened in the parish of St Andrews, but it was soon abandoned.

Productions.] Besides the staple exports of Jamaica, consisting of sugar, indigo, coffee, and cotton, the cultivated vegetables are maize, Guinea corn, *calavances*—a species of pea used for the food of the Negroes—and almost all the kitchen-vegetables of Europe, besides many indigenous ones, as the sweet potatoe, yam, arrow-root, *callaloo*, a kind of spinach, *cassera*, *okasy*, &c. Few of the northern European fruits thrive, but the indigenous ones are numerous and delicious; the principal are, the plantain, cocoa-nut, guava, sour-sop, sweet-sop, papau, custard-apple, cashew-apple, grandella, prickly pear, pine-apple, &c. The orange, lime, lemon, mango, and grape, have been naturalized, as well as the cinnamon-tree, of which there are now considerable plantations. The bread-fruit tree, with other useful plants, has been introduced by the exertions of Sir Joseph Bankes. This island abounds in various grasses of an excellent quality. The principal forest-trees are, mahogany, lignum-vitæ, iron-wood, logwood, braziletto, &c. Many of them rise to a prodigious height, as the papaw and the palmetto-royal, the latter of which is frequently found 140 feet high: the trunks of the *ceiba*, or wild cotton-tree, and the fig-tree, also often measure 90 feet from the base to the limbs; the former, when hollowed out, has been known to form a boat capable of holding 100 persons. Of softer kinds of wood, for boards and shingles, there is a great variety of species; and there are many well-adapted for cabinet-work, such as the bread-fruit, wild lemon, &c. In mentioning the vegetable productions of this island, the wild pine ought not to be omitted; it is a plant that commonly takes root in the great forks of the branches of the wild cotton-tree; and by the conformation of its leaves, it catches and retains the rain-water, each leaf resembling a spout, and forming at its base a natural reservoir which will hold about a quart of water. When Jamaica was first discovered, it contained eight species of quadrupeds, the agouti, the pecari, the armadillo, the oppossum, the racoon, the musk-rat, the alco, and the monkey. Of these, only the agouti and the monkey remain. There are many varieties of the lizard, some of them very beautiful. The most delicious of the wild fowl are the ring-dove and the rice-bird of South Carolina; the latter, after fattening upon the rice-plantations of that district, visit Jamaica in prodigious numbers in October, to feed on the seeds of the Guinea grass. Parrots are still found in the groves, but the flamingo is no longer to be seen. Few cattle are bred in this island, the asses and mules being imported from the Spanish Main, and the horses from Britain and America. The black cattle are of a large size. There are also sheep, goats, and hogs, in great plenty. The mutton is well tasted, but the wool is hairy and coarse. Near the coast there are salt-ponds, from which the inhabitants formerly supplied their own consumption.

Cultivation of Sugar.] In the year 1673, the chief productions of Jamaica were cocoa, indigo, and hides. The cultivation of sugar had just commenced; and it appears that the increase in the growth of this staple article of the island has been very gradual. A new species of sugar-cane, far more valuable than that formerly in use, has been introduced into Jamaica. It was first imported into the French islands of Guadaloupe and Martinique, from the islands of Bourbon and Mauritius, and is called the Bourbon, or Otaheite cane. It is much higher, and four times as large as the cane formerly grown exclusively. It will grow in boggy land, and yields one-third more sugar than the old cane; but the sugar is not of such a compact grain. The average expense of the cultivation of sugar is 20*s.* 10*d.* per cwt. independent of the interest of capital. The works necessary for making 200 hogsheads of sugar annually, cost £10,000 Jamaica currency; and an estate producing such a quantity requires £40,000 to establish it, viz. 250 negroes, at £70 sterling each, amounting to £17,500; 180 cattle and mules, at £30 each, amounting to £5,400; buildings for the manufacture, and houses of negroes and owners, £7,000; and land, £10,000. The value of the buildings and machinery on the sugar plantations varies from £4,000 to £25,000 sterling. The greatest crop of sugar, on an estate with one set of works, makes from 100 to 300 hogsheads. Estates containing 1,300 negroes, and a due proportion of whites, require about £10,000 sterling of supplies annually of British manufactures and provisions. One hundred barrels of herrings are required for 250 negroes in the course of the year. Formerly it was calculated that where two hogsheads of sugar were made, there was at least one puncheon of rum; but latterly the proportion has been greater, the average annual quantity of rum being nearly 54,000 puncheons to 100,000 hogsheads of sugar.

Coffee Plantations.] Coffee was little cultivated in Jamaica till the year 1788. The coffee plantations are generally situated in the hilly regions—which compose nearly two-thirds of the island—and which are, from their soil, climate, and situation, unfit for sugar plantations. In Jamaica, indeed, since the revolution in St Domingo, the coffee-plantations have been carried on to a great extent, so as to produce more than 29,000,000 of lbs., (worth £1,500,000 sterling,) in the course of a year. Previous to the year 1808, it had not been the policy of this country to consider coffee as an article cultivated in the British islands; and, therefore, a duty was imposed, amounting to about 250 per cent. on the import price of the article; and the excise restrictions were so severe as to discourage the consumption in every possible way. In 1809, the distresses of the coffee-planters being brought under the review of the then minister of finance, under circumstances which disclosed the vast and rapid increase of the growth of coffee in the British islands, but more particularly in Jamaica, he obtained the sanction of the legislature to an alteration, which removed the restrictions and prohibitions as to roasting and grinding coffee in private houses, and to a reduction of the duty to 7*d.* a pound of customs and excise. The result was, that the revenue increased 226 per cent. on an aggregate of 5 years; and yet, notwithstanding this great augmentation of revenue, and increased consumption, the revenue on tea was not in any respect diminished.

Cultivation of Cotton, &c.] Cotton is not cultivated to any great extent in Jamaica; it was attempted to cultivate it on ground worn out by sugar, but it was found that such soil would not grow either cotton or coffee, and would produce only a very inferior grass. Indigo is now very little cultivated, and in all probability will never again become a staple commodity. Blome, who published a short account of Jamaica, in the year 1672, mentions that there existed at that time about 60 cocoa-walks: at present there is scarcely a single plantation in the whole island. Ginger is little cultivated. All the produce of the arnatto-plant which is at present exported from Jamaica is gathered from the trees that grow spontaneously. The pimento-trees also grow spontaneously, and in great abundance, especially in the hilly regions of the north. The returns from a pimento-walk, in a favourable season, are very great: a single tree has been known to yield 150 lbs. of raw fruit, or 100 lbs. of the dried spice.

Exports and Imports.] The following statement of the quantity and value of the productions of this island, the imports, exports, &c. is taken from documents ordered by the House of Commons to be printed in 1815; Hogsheads of sugar, 135,592; puncheons of rum, 73,263; casks of molasses, 518; pounds of coffee, 29,528,275; pounds of cotton, 50,000; pounds of pimento, 2,600,604. Estimated value of the preceding articles at the following rates: rum, 2*s.* 6*d.* per gallon; sugar, 34*s.* per cwt.; coffee, 7*d.* per lb.; molasses, 20*s.* per cwt.; cotton, 9*d.* per lb.; pimento, 6*d.* per lb.; £5,170,803. Estimated value of miscellaneous articles, including cattle, esculents, fruits, &c. £5,998,858, making a total of £11,169,661. Estimated value of exports to the United Kingdom, £6,885,539; to all other parts, £384,322, exclusive of a valuable trade of which no estimate can be formed, which is carried on between Jamaica and several of the Spanish West India colonies. Estimated value of the imports from the United Kingdom, £3,683,726; from all other parts, £892,207. Aggregate value of the colony, £58,125,298. In 1823 there was imported into Great Britain, from Jamaica, 1,417,758 cwts. of sugar, 169,734 of coffee, and 2,951,110 gallons of rum.

Revenue and Expenditure.] The revenues of the island are perpetual and annual. The former were imposed by the revenue law of 1782, and amount to about £12,000 per annum; the latter are occasional grants of the legislature. The principal taxes consist of an excise on rum, a poll-tax on slaves and stock, and a rate on rent and wheel-carriages. The revenue generally amounts to about £300,000 Jamaica currency;[2] but the mere military expenses of this island costs the treasury of Great Britain £120,000, exclusive of its revenue.

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[2] The guinea passes for 30 shillings Jamaica currency.
The crown, for 7 shillings ditto.
The Spanish pistole, for 24 shillings ditto.
The hard dollar, for 6 shillings and 8d. ditto.
The bit, or Spanish real, for 7½d. ditto.
The value is, however, subject to alteration, according to circumstances. Accounts are kept here, and in all the British West India islands, in pounds currency, each

Government.] The governor of Jamaica is appointed by the king, and can be recalled at pleasure; there are, besides, a council, and a house of assembly. The former is generally chosen by the Crown from amongst the most respectable inhabitants; the members are 12; they are, *ex officio*, justices of the peace, and form a privy council to the governor. The house of assembly consists of 43 members, who are chosen by the freeholders; every parish sends 2 members, except Spanish Town, Kingston, and Port Royal, which send 3 each. The electors must be whites, of age, and possess a freehold of £10 per annum in the parish. The representatives must possess a freehold of £300 per annum in any part of the island, or a personal estate of £3,000. The supreme court of judicature, called the grand court, and combining the jurisdiction of the courts of king's bench, common pleas, and exchequer in England, is held in Spanish Town thrice a year. All white males, from the age of 15 to 60, are obliged by law to provide themselves with their own accoutrements, and to enlist either in the cavalry or infantry of the militia.

State of Religion.] Besides a bishop, there are 19 beneficed clergymen in Jamaica, all of whom receive an annual stipend from the island of £420 per annum, subject to a deduction of 10 per cent. which is applied towards a fund for the support of the widows and children of clergymen dying on the island. The value of the livings varies according to the number of inhabitants; and in some parishes the surplice-fees are considerable, particularly in Kingston, Spanish Town, and St Andrews. There are several Moravian, Methodist, Presbyterian, and Baptist missionaries on the island, whose labours are invaluable.

Population.] Humboldt has estimated the population of Jamaica at 402,000 souls, of whom 342,388 were slaves. The returns in 1826, however, only gave 331,119 as the amount of the slave-population of this island. The number of whites probably amounts to 32,000; and of free people of colour to 17,000.

Decrease of the Slave Population.] "It appears," says an able journalist, "from an examination of documents printed by order of the House of Commons during the last five sessions of Parliament, and from abstracts obtained from the Colonial Registry office, that the slave-population of our West India colonies is undergoing a constant and rapid decrease. The Slave registry shows that in 1818 the population amounted to 746,651. In 1824 it had fallen to 71[illegible] 317. After deducting the number manumitted between these two periods, the real decrease in 6 years upon the slave-population of these colonies collectively, amounts to not less than 28,000. In Jamaica and Demerara alone the decrease during that period was 16,592. It is clear, therefore, that the actual decrease of the slave population in our West India colonies is proceeding at the rate of 33¾ per cent., or ⅝ per cent. per annum. When we compare this with the growth of the slave population in the United States of America, where the increase proceeds at the rate of nearly 2½ per cent. per annum, it involves a destruction of life equal to 3 per cent. per annum. At the Ame-

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consisting of 20 shillings; and each shilling of 12 pence currency. One hundred pounds sterling is equal to L.140 currency. While we are on this subject, we may state that the above account of monies will generally apply to all the islands, with the exception of the Leeward islands, where the currency is L.200 for L.100 sterling, and the dollar is 9 shillings.

rican rate of increase the slave-population of the British West Indies, which in 1818 was 746,651, ought in 1824 to have been 858,648. Its actual amount in that year was only 713,317, leaving a deficit of 145,331, as compared with that rate of increase, which, with all the common disadvantages of a state of bondage, marks the superiority of the United States in the physical treatment of their slaves, and especially in respect to the larger quantity of their food, and the smaller portion of labour exacted from them; for on these must the rate of increase or decrease mainly depend. Now there must be something peculiarly deleterious in the British colonial system which can produce such fearful results—results which form of themselves a complete answer to every attempt, however confidently made, and by whatever *show* of evidence supported, which goes to exculpate that system from the charge of cruelty, or to represent its administration as humane and lenient. Even the population of Great Britain and Ireland, whom the West Indians represent as starving, increase,—while the peasantry of the West Indies, whom they describe as well-fed, and slightly worked, as living happily, and even luxuriously, are decreasing. These too decrease, while the free Maroons on the mountains of Jamaica, though unhappily strangers to the vaunted blessings enjoyed by the slaves around them, increase; nay, they have continued to decrease, while the 'wretched' and 'oppressed' inhabitants of Hayti have been more than doubling their numbers; and while among the slaves of the United States, the increase has been rapidly progressive. The climate of Jamaica and that of Hayti are the same. In Jamaica, the Negro population has been diminishing from year to year; in Hayti the Negro population has doubled its numbers in about 20 years, (from 1805 to 1825,) its amount being now about 1,000,000. That of Jamaica, which in the same period of time, and at the same ratio of increase, ought to have risen to upwards of 700,000, does not exceed 335,000. There is, therefore, a positive waste of life occasioned by the Jamaica system, as compared with that of Hayti, even on its limited scale of population, of 365,000 human beings in 20 years.

"It is evident that, independently of the other evils of slavery, sugar-planting generally, as it is conducted in the British West Indies, is decidedly unfriendly to human life. This arises, in part, from the oppressive labour which attends the digging of the trenches for receiving the cane, and which is executed, not by ploughs and cattle, but by men and women; and, in part, from the privation of their natural rest, to which the slaves are subjected in crop-time, extending to a period of 4 or 5 months of the year, during which they are obliged to labour for half the night as well as for the whole of the day. On comparing the quantity of sugar annually imported from our several West India colonies, with the decrease of the slave population, it will be found that the mortality in each colony bears a very remarkable correspondence with the extent of its sugar-cultivation, and with the comparative fertility of its soil. This very fertility, instead of mitigating the toil of the slave, forms a strong temptation to an increased exaction of his labour. Accordingly we find, that where the lands are most productive, yielding the largest return for the labour of each slave, and a proportionably larger share of whatever gain arises from protection and bounty, the ratio of mortality is the highest. Thus, while in the Bahamas, which produce no sugar, and Barbadoes and Dominica, which raise comparatively little, the slave population supports itself, and even exhibits some tendency to increase, it is impossible not to be struck with the frightful mortality which prevails in Demarara, Grenada, St Vincents, Tobago, and Trinidad, the very colonies which produce by far the largest quantities of sugar, in proportion to their population. With these facts before us, shall we blame those as guilty of exaggeration, who affirm, though in strong language, that the sugar of our plantations is produced by the blood of our slaves, or as unreasonably squeamish, who object to aggravate the evil, either by consuming that sugar themselves, or by acquiescing in those fiscal regulations which factitiously enhance its value?"

While we quote these remarks with approbation, there is so much fairness and moderation in the remarks of another journalist, on the subject of West Indian slavery, that we think it right to append them to this article:—"That slavery," says the editor of a London paper, "is a great and enormous evil, is equally admitted both by the holders of slaves and by those who desire to see its abolition. That it is also productive of moral degradation to all parties concerned in it, cannot be denied. It must, therefore, be a desirable object on the one hand to mitigate its evils, and on the other to adopt such measures as may tend to abolish it altogether, without infringing on the rights of the planter, or opening the flood-gates to the evils which no doubt would be occasioned by an immediate emancipation of the slaves. But it is a subject fraught with the greatest difficulties, and one likely to make any wise man pause before he gave his sanction to any measures which should tend to destroy the present state of society in the West India islands. The accounts which have been given by the slave-holders and the abolitionists, are in themselves so contradictory, that it is very difficult to reconcile them, so as to believe that the advocates of each party are pourtraying the same society, and we believe that the truth lies between the two. It is natural that those who possess an interest in slaves should represent their conduct in the fairest light, and some credit ought to be given them for their statements. Their very means of existence are at stake, and therefore they feel indignant at the interference of others; but it must be remembered that such conduct, although natural, ought not to stop the friends of freedom from pursuing their course, in endeavouring to emancipate the slaves. It must be recollected that there are three parties to this measure—the slave, the master, and the civilized world. And before any measure be resolved upon, that is to affect the rights of either of those parties, it is just that we should inquire, whether it will benefit the slave by raising and improving his moral condition, and fit him for the enjoyments of the privileges of Englishmen; whether it will violate the rights of the master; and whether its effects will be beneficial to the world at large. If it will accomplish all these objects, it ought immediately to be carried into execution; but if not, if it will only fulfil one of these designs, and that only partially, then surely it becomes the legislature to pause before it should adopt it."

Topography.] Jamaica is divided into three counties: *Middlesex*, *Surrey*, and *Cornwall*. The county of Middlesex is divided into 8 parishes, which contain one town and 13 villages. The county of Surrey contains 7 parishes, in which are 2 towns and 10 villages. The county of Cornwall contains 5 parishes, in which are 2 towns and 8 villages. The villages of Jamaica are generally small hamlets on the bays, where the produce is shipped in *draggers*, to be conveyed to the ports of clearance.

Kingston.] Kingston, the capital of Jamaica, is a thriving town, with

33,000 inhabitants—of whom 10,000 are whites—situated on the S. side of the island, and on the N. side of a harbour capable of holding 1,000 ships. Some of the houses are well-built; and its markets for butcher's meat, fish, fruits and vegetables, are noted for their excellence. Its extensive commercial transactions render Kingston a place of very high consequence in the British transatlantic dominions.

Spanish Town.] Spanish Town, or *St Jago de la Vega*, the seat of government, is a very agreeable town in the interior of the island, 16 miles from Kingston, which it does not equal in size or importance of trade.

Port Royal.] Port Royal, opposite to Kingston, in the same bay, was once a flourishing place; but being visited, in 1692, by an earthquake, which buried nine-tenths of the houses several feet under water,—at the distance of 10 years, almost entirely reduced to ashes by fire,—and lastly demolished by a hurricane, the people took alarm, and almost universally abandoned the spot as forbidden ground. The last calamity occurred in 1722; since which period, however, about 200 houses have been built on the same foundation; and probably, as its advantages in respect of harbour, &c. are great, it may recover some of its former consequence.

The few other places worthy of mention are, *Falmouth*, on the north-west, on the south side of Martha Brae Harbour; *Luca Harbour*, also on the north coast; *Bluefield Bay*, on the south coast, 3 leagues east of Savannah le Mar, the usual rendezvous of the homeward bound fleets; and *Carlisle Bay*, also on the south coast. The chief head-lands on the island are *Point Morant*, more generally known to seamen by the name of the *East end of Jamaica*, and dreaded by them for its thunder and lightning-squalls. *Nepil by North*, and *Nepil by South*, are two promontories on the west end of the island.—The islands deserving mention near Jamaica, are the *Pedea Keys*, and *Portland Rock*, on a large bank south of the island; and the *Morant Keys*, 8 leagues S.E. of Morant Point.

Historical Notice.] Jamaica was discovered by Columbus in 1494; in 1509, it received a Spanish colony from Hispaniola; in 1655, all the establishments were abandoned except St Jago de la Vega, and during the same year it was conquered by the English under Penn and Venables. The first British colonists were 3,000 disbanded soldiers of the parliamentary army. These were soon followed by 1,500 royalists. Till the restoration, the government was entirely military. On the surrender of the island to the English, the Negro slaves of the Spaniards fled to the mountains; and their descendants, called *Maroons*, committed great depredations, till 1738, when a treaty was concluded with them, by which their freedom was secured, and 1,500 acres of land granted to them. They remained peaceable till the year 1795, when a new Maroon war broke out. At first they were rather successful; but at last, by a more vigorous system of hostilities, and the introduction of blood-hounds from Cuba, they were driven to the mountains, and ultimately obliged to submit on condition that their lives were spared. Soon afterwards, 600 of them were conveyed to Nova Scotia, where lands were granted to them. Nothing remarkable has since occurred in the history of this island.

II. *Barbadoes.*] The island of Barbadoes lies 20 leagues E. from St Vincent, which may be seen in a clear day; 25 from St Lucia; 28 S.E. from Martinico; 60 N.E. from Trinidad; and 100 S.E. from St Christopher's. It is about 22 miles in length, and 14 in breadth, and contains 239,000 acres of land, most of which is under cultivation. The surface of this island is not greatly diversified with hills and valleys; it is watered with several small streams, and has some springs of good water; but the supply seems not sufficient to preclude the use of reservoirs for collecting rain-water. The temperature of Barbadoes is pretty uniform, and the climate is found to be more salubrious than that of most of the West India islands. The soil, reposing on calcareous strata, is various: as black mould, reckoned the richest and most productive,—a whitish gray mould, in which clay predominates,—and a reddish earth, which is considered of inferior quality. The island is divided into 5 districts and 11 parishes; *Bridgetown*, *Charlestown*, *St James's*, and *Speight's*, are the only towns of the island. Bridgetown is the capital and seat of the government. Barbadoes was visited by an English ship early in the 17th century; but no permanent settlement was made till 1624, when a few adventurers from England established themselves upon it. During the civil wars which soon after distracted the kingdom, they received a great accession to their numbers, so great indeed, that in 1676 the white population is said to have amounted to 50,000, and that of the slaves to amount to 100,000; but this is undoubtedly a most erroneous statement. The white inhabitants, in 1786, were numbered at 16,167, and the slaves at 62,953, but the latter were estimated, in 1753, at nearly 70,000. In 1811, the whole population was stated as follows: whites, 16,289; free persons of colour, 2,612; and slaves, 69,132; making the total amount equal to 87,034. In 1826 the number of slaves was returned at 80,551, and the whites exceed 41,000. It appears that the annual produce of this island (particularly sugar) has decreased in a much greater proportion than in any other of the West India colonies. Postlethwayte estimated the crop of sugar, in 1736, at 22,769 hogsheads of 13 cwt., which is equal to 19,800 of 15 cwt.; and the author of the "European Settlements," published in 1761, calculated the average crop at 25,000 of these hogsheads. In 1812, the exports were as follows: 12,487 hogsheads of sugar, 5,540 puncheons of rum, 1,425 casks of molasses, 64,496 pounds of coffee, and 1,463,738 pounds of cotton. The estimated value, including other articles not enumerated, £1,270,863 sterling. Imports, £569,741. Its present produce is equal in value to about £1,200,000. The fluctuations of Barbadoes produce may be ascribed to the dreadful hurricanes with which this and the neighbouring islands have been sometimes suddenly visited. The capital of this island was scarcely risen from the ashes to which it had been reduced, when it was torn from its foundations, and the whole country made a scene of desolation by a storm on the 10th of October, 1780, in which above 4,000 of the inhabitants miserably perished, and the damage of property was computed at above £1,000,000 sterling.

III. *St Christopher's.*] The island of St Christopher, or *St Kitt's*, lies about 60 miles to the W. of Antigua, and is about 15 miles *in length*, and 4 in breadth. This island was first discovered by Columbus, in 1493, who gave it his own Christian name. It was however never settled, or at all occupied by the Spaniards. It is the oldest of all the British settlements in the West Indies, having been taken possession of by Thomas Warner, and 14 others, his associates, in January, 1623, one year previous to the occupation of Barbadoes. This island was for some time possessed by the British and French jointly, who expelled each other alternately, and the colony was thus rendered a scene of hostility and bloodshed for half a century. By the peace of Utrecht, St Christopher's was wholly ceded to the British; and the French possessions were publicly sold for the benefit of the British government. The central districts are mountainous and rugged, and clothed with thick woods. A good deal of this island is supposed to be unfit for cultivation, but the whole has a fine romantic appearance, and it possesses a comparatively healthy climate. Springs are abundant, but commodious harbours and landing-places are wanting. The island is divided into 9 parishes, and contains 4 towns and hamlets. The town of *Basseterre* is the capital, and consists of about 800 houses. In 1812, the population was as follows: 1,200 whites, 500 free persons of colour, and 30,000 slaves; but the latter were estimated, in 1825, at only 19,516. St Christopher's contains nearly 40,000 acres, of which about 30,000 are cultivated in canes, pasture, and provisions. The plains of this island are remarkably fertile; and the sugar they produce has always, from its superior quality and strength, brought the highest prices. The average produce of this island may be estimated at about 10,000 hogsheads, and is rather diminishing than increasing. A great expense is incurred by the planters in procuring manure for their lands; and they often suffer much from droughts, notwithstanding that the country is well-watered by springs and rivulets. The estimated value of the exports, in 1812, was £436,528 sterling; and of the imports during the same year, £215,499.

IV. *Nevis.*] Nevis is separated by a narrow channel from St Christopher's. On the south, it presents the appearance of a single mountain surrounded by a margin of low lands. This small but beautiful island is not more than 24 English miles in circumference; and its single cone-shaped mountain has probably been produced by a volcanic eruption at some remote period of the world, since there is a visible hollow near the summit which contains a hot spring strongly impregnated with sulphur. The country is well-watered, and the land in general fertile, producing on an average about 16 cwt. of sugar an acre. This island produces no staple of any consequence, except sugar. The estimated value of the exports, in 1812, amounted to £217,672 sterling, and that of the imports to £94,293. The population at the same date was as follows: 500 white persons, 250 free persons of colour, and 15,000 slaves. In 1825, the slaves were returned at 9,286. The island is divided into 5 parishes. *Charleston* is the capital, on the S.W. side, defended by a fort, lying in 62° 50′ W. long., and 16° 10′ N. lat.

V. *Antigua.*] The island of Antigua, *Antigoa*, or *Antego*, is situated about 20 leagues to the eastward of St Christopher's, and is about 21 miles in length, nearly the same in breadth, and 50 in circumference. In 1632, a few English families took up their residence on this island, and began the cultivation of tobacco; but the number did not much increase for some years, until Lord Willoughby of Perham—to whom king Charles II. had, in 1663, made a formal grant of Antigua—sent out a considerable number of inhabitants at his own expense. The settlement, however, was nearly strangled in its infancy; for, in 1666, a French armament from Martinico, with a body of Caribbs, invaded the island, and ravaged the country with fire and sword. This island, however, was restored to the English in 1668, by the treaty of Breda. Antigua contains two different kinds of soil: the one is a black mould on a substratum of clay, which is naturally rich, and is very productive when vegetation is not checked by excessive droughts, to which this island is particularly subject,—the other is a stiff clay on a substratum of marl. It is much less fertile than the former, and abounds with a species of grass which cannot be eradicated; so that many estates, consisting of this kind of soil, which were once very profitable, are now so overgrown with it as to be converted into pasture, or so impoverished as to be entirely abandoned. But exclusive of these deserted lands, and a small part of the country which is unimprovable, the rest of the island may be said to be under cultivation. The whole extent of Antigua is about 250,000 acres, of which about 34,000 are appropriated to the growth of sugar, and to pasturage connected with it. The other principal articles of cultivation are cotton and tobacco; and in favourable years, the planters also raise considerable quantities of provisions. From the circumstances already mentioned, it is difficult to furnish an average return of the crops, which vary so much, that the quantity of sugar exported from the island in some years, is four times greater than in others; and indeed in some years there have been no crops of any kind, in consequence of the want of rain for many months together. Mr Edwards states, that 17,000 hogsheads of sugar, of 14 cwt., is considered as a good saving crop. In 1812, the exports were as follows: 13,625 hogsheads of sugar, 5,683 puncheons of rum, 74 casks of molasses, 19,480 lbs. of coffee, 39,880 lbs. of cotton; valued at £389,740 sterling. The imports were estimated at £384,708. Antigua is divided into 6 parishes and 11 districts; and contains 6 towns and villages. No island in this part of the West Indies can boast of so many excellent harbours. Of these, the principal are, *St John's*, the capital of Antigua, and what is called *English Harbour*. Both of these are well-fortified; and at the latter, the British government has established a royal naval yard and arsenal, and conveniences for careening ships of war. No springs but such as yield a brackish water flow in Antigua; and no rivers water its valleys.—To compensate for this serious inconvenience, rain-water is collected in large cisterns; and when the rainy season is not unusually abridged, a sufficient quantity is obtained. The white population of the island appears to be on the decrease, while the number of blacks has been considerably augmented. In 1741, according to the Abbé Raynal, the whites amounted to 3,538, and the negroes to 27,418; but by the returns which were made to government in 1774, the white inhabitants, of all ages and sexes, had decreased to 2,590. From a census made under the authority of the colonial legislature, in 1811, it appears that the number of white inhabitants was 2,102, exclusive of troops; the number of free persons of colour, 1,747; of free blacks, 438; and of slaves, 28,317. The last number of slaves returned is 30,314, and within the last 5 years 812 have been manumitted, while Jamaica, with a population many times greater has manumitted only 466. The legislature of Antigua is composed of the commander-in-chief, a council of 12 members, and an assembly of 25. It was the first which presented the example of an amelioration of the criminal law with regard to Negro slaves, by affording the accused party the benefit of trial by jury; and allowing, in case of capital convictions, four days to elapse between the time of sentence and the execution. The legislature of Antigua has likewise, in many other instances, displayed a singular measure of humanity and firmness.

VI. *Montserrat.*] Montserrat is about 9 miles in length, and as many in breadth, and lies in 112° 17′ W. long., and 16° 48′ N. lat., about 20 miles to the S.W. of Antigua, and about the same distance S. of Nevis. This island is fruitful and pleasant, and agreeably diversified with hills and vales,—the former covered with a variety of trees, and the latter having the advantage of sufficient streams and a generous soil. Its productions are sugar, rum, and cotton. The population is as follows: 444 white persons, 200 free persons of colour, and 10,000 slaves. Montserrat received its name from its discoverer Columbus, in consequence of its resemblance to a mountain in Spain of the same name.

VII. *Virgin Islands.*] These are a group of small islands, amounting to the number of 40, lying between Puerto Rico and the above or *Leeward Caribbee* islands. The British hold *Tortola*, and *Virgin Gorda*, which is likewise called *Penniston*, *Gosvan Dykes*, *Guana Isle*, *Beef* and *Thatch Islands*, *Anegada*, *Nichar*, *Prickley Pear*, *Camanas*, *Ginger*, *Cooper's*, *Salt Island*, *Peter's Island*, and several others of little value. The first possessors of such of these islands as now belong to the British government were a party of Dutch Buccaneers, who settled at Tortola about the year 1648, and built a fort there for their protection. In 1666, they were driven out by a stronger party of the same class of adventurers, who calling themselves English, pretended to take possession for the crown of England; and the English monarch, if he did not commission the enterprise, made no scruple to claim the benefit of it, for Tortola and its dependencies were soon afterwards annexed to the Leeward Island government, in a commission granted by Charles II. to Sir William Stapleton. The Dutch had made but little progress in cultivating the country when they were expelled from Tortola; and the chief merit of its subsequent improvements was reserved for some British settlers from the little island of Anguilla, who, about the year 1694, embarked with their families, and settled in the Virgin islands. In 1756, the inhabitants, whose number amounted to 1,263 whites, and 6,121 blacks, wished to be put on the same footing as the other islands, by the establishment of a civil government and courts of justice; but in this expectation they were not gratified until the year 1773. The chief and almost the only productions of these islands are sugar and cotton: the cultivated acres, in 1812, amounted to 12,000. The population at the same date was 300 whites, 400 free persons of colour, and 10,000 slaves. In 1825 the slave population was returned at only 5,436.

VIII. *Grenada and its Dependencies.*] Grenada is situated between 12° 20′ and 11° 58′ N. lat., and 51° 20′ and 61° 35′ W. long. It is about 20 miles in length from north to south, and about 10 at its greatest breadth, contracting gradually towards both extremities. The face of the country is mountainous, but not inaccessible in any part, and it abounds with springs and rivulets. To the north and east, the soil is a brick mould, nearly the same as that of Jamaica. On the west side it is a rich black mould on a substratum of yellow clay. To the south, the land in general is poor, and of a reddish hue, and the same extends over a considerable part of the interior country. On the whole, however, Grenada appears to be fertile in a high degree, and seems well-adapted to every tropical production. There is a fortified bay on the N.W. coast so capacious and secure that 60 large sail may ride in it safely, almost without casting anchor.

Grenada was discovered by Columbus in his third voyage, in the year 1498. It was then inhabited by a numerous and warlike people, who remained unmolested until 1650, when the then French governor of Martinique took possession of it. By a succession of calamities and revolutions, the narration of which would interest few readers, the prosperity of this settlement was so much impaired, that in the year 1700, more than 20 years after the sovereignty had been vested in the crown of France, there were found on the whole island, only 151 white persons, 53 free negroes or mulattoes, 525 slaves, 64 horses, 569 horned cattle, 3 plantations of sugar, and 52 of indigo. About 14 years afterwards, however, an active commercial intercourse was opened with the island of Martinique, cultivation was rapidly extended, and notwithstanding the interruption which these improvements sustained by the war in 1744, Grenada was found, in 1753, to contain 1,262 white inhabitants, 175 free persons of colour, 11,991 slaves, 2,298 horses or mules, 2,456 horned cattle, 2,278 sheep, 902 goats, 331 hogs, and 83 sugar-plantations. In the year 1762, the island was captured by the British naval and military forces; and by the peace of Paris, on the 10th February, 1763, it was ceded with all its dependencies to Great Britain. In 1779 it was recaptured by the French, and finally restored to Great Britain in the general pacification which took place in 1783. The capital of Grenada, by an ordonance of governor Melville, in 1765, soon after the cession of the country to Great Britain by the peace of Paris, was called *St George;* and by the same ordonance English names were given to the several towns and parishes. The French name of the capital was *Fort Royal.* It is situated in a spacious bay, on the W. or lee side of the island, not far from the S. end. It is built chiefly of brick, and is divided by a ridge, which running into the sea, forms on one side the careenage, on the other the bay: thus there is the *Bay Town,* which boasts a handsome square and market place, and the *Careenage Town,* wherein the principal merchants reside, the ships lying landlocked, and in deep water close to the wharfs. The constitution of Grenada differs little from those of the other British West India colonies. A governor, 12 members forming the council, and an assembly of 26, chosen by the people as their representatives, form the legislative body. In all cases, the common statute law of England is the rule of justice, unless where particular laws of the island interfere. "Whether (says Mr Edwards) it be owing to the events of war, to domestic dissensions, or to calamities inflicted by the hand of Divine Providence, I know not, but it appears that the white population of Grenada and the Grenadines has decreased considerably since these islands came first into the possession of the British. The number of white inhabitants in the year 1771, was known to be somewhat more than 1,600; and at this time (1791) they are supposed not to exceed 1,200." The Negro slaves have also decreased. By the last returns preceding the capture of the island in 1779, they were stated at 35,000, of which 5,000 were in Carriacou and the smaller islands; and in 1825, they amounted to no more than 24,897. There are 80,000 acres of land in the island, of which 50,000 are cultivated. In 1776, the exports from the island and its dependencies were 14,012,157 lbs. of muscovado, and 9,273,607 lbs. of clayed sugar; 818,700 gallons of rum; 1,827,166 lbs. of coffee; 457,719 lbs. of cocoa; 91,943 lbs. of cotton; 27,638 lbs. of indigo, and some smaller articles; the whole of which, at a moderate computation, was worth, at the ports of shipping, £600,000 sterling. The sugar was the produce of 106 plantations, worked by 18,393 Negroes, which gives rather more than a hogshead of muscovado sugar, of 16 cwt., from the labour of each Negro, —a return which Mr Edwards affirms to be unequalled by any other British island in the West Indies except St Christopher's. In 1787, the exports were 175,548 cwt. of sugar, 670,390 gallons of rum, 8,812 cwt. of coffee, 2,062,427 lbs. of cotton, and 2,810 lbs. of indigo. In 1810, the value of the exports amounted to £388,986 sterling, and the imports, to £173,366. In 1812, the produce of the island amounted to 16,753 hogsheads of sugar, of 14 cwt. each; 11,825 puncheons of rum, of 110 gallons each; 322 casks of molasses, of 80 gallons; 143,576 lbs. of coffee; 832,518 lbs. of cotton; the total value of which articles was £568,067 sterling. The estimated value of miscellaneous articles, including cattle, fruits, &c. amounted to £367,715 sterling, making a grand total of £935,782. Estimated value of the exports of the same year, £565,782 sterling, and the imports £375,752.[4]

The Grenadines form a chain in the direction of St Vincent, toward the N.; the chief of those dependent on the Grenada government are *Carriacou* and *Redonda*. The former contains 6,913 acres of land, and in general it is fertile and cultivated, producing in seasonable years an abundant crop of cotton for exportation, besides corn, yams, potatoes, and plantains, sufficient for the maintenance of the negroes. The cultivation of sugar on this island has been found less successful than cotton, though the former article still continues to be made. Isle Redonda contains about 500 acres of excellent land, which are wholly applied to pasturage and the cultivation of cotton. It is situated about midway between Carriacou and the N. end of Grenada, about 4 leagues from each.

IX. *St Vincent and its Dependencies.*] St Vincent is a very beautiful island. *Kingston*, the capital, lies in 13° 5′ N. lat., and 61° 15′ W. long. The island is about 24 miles long and 18 broad, and lies 55 miles W. of

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[4] In this colony, the sugar-plantations are subject to great ravages from the carnivorous or *sugar-ant*, an insect which is thought to be common to all the West India islands, but which has been peculiarly destructive in Grenada. They are of an ordinary size, a slender shape, a dark red colour, and remarkable for the quickness of their motions; but they are distinguished from every other species chiefly by the sharp acid taste which they yield when applied to the tongue, and the strong sulphureous smell which they emit when rubbed together between the palms of the hands. Their numbers have often been so immense as to cover the roads for the space of several miles; and so crowded in many places, that the prints of the horses' feet were distinctly marked among them till filled up by the surrounding multitudes! They are never seen to *consume or carry off any vegetable substance whatever, but always lay hold of any dead insect or animal substance which comes in their way. Every kind of cold victuals, all species of vermin (particularly rats), live poultry, and even the sores of the Negroes, are exposed to their attacks. But they are chiefly injurious by constructing* their nests among the roots of the lime, lemon, orange-trees, and sugar-canes, and so obstructing their growth as to render the plants sickly and unproductive. A premium of L.20,000 from the public treasury was offered to the discoverer of any effectual method of destroying them, and the principal means employed were poison and fire. By mixing arsenic and corrosive sublimate with animal substances, myriads were destroyed: and the slightest tasting of the poison rendered them so outrageous as to devour one another. Lines of red hot charcoal were laid in their way, to which they crowded in such numbers, as to extinguish it with their bodies; and holes full of fire were dug in the cane-grounds, which were soon extinguished by heaps of dead. But while the nests remained undisturbed, new progenies appeared as numerous as ever; and the only effectual check which they received, was from the destructive hurricane of 1780, which by tearing up altogether, or so loosening the roots where they nestled as to admit the rain, almost extirpated the whole race, and pointed out the frequent digging up, and consuming by fire, *of those stools and roots in which they take refuge*, as the best preventive of their future increase.

Barbadoes. It was discovered by Columbus; but it does not appear that the Spaniards ever formally took possession of it. It was inhabited by the native Yellow Caribbs, a warlike people, who were numerous on this island, attracted perhaps partly by its natural fertility, and partly by its affording them a point of rendezvous in their expeditions to the continent. About the year 1680, a ship from Guinea, with a large cargo of slaves, was either wrecked or run on shore upon the island of St Vincent, when great numbers of the negroes escaped into the woods and mountains. These people, in contradistinction to the aborigines, received the name of the Black Caribbs, and, by intermarriages with the natives, and the accession of runaway Negroes from Barbadoes, became at length so very powerful, that in the early part of the last century they compelled the native Caribbs to evacuate in their favour the N.W. part of the island.[5] In 1672, king Charles II. attempted to assume the sovereignty of this and the neighbouring islands of St Lucia, Dominica, and Tobago, and until 1748 great contentions prevailed between England and France respecting them; when at length, by the treaty of Aix la Chapelle, they were declared neutral, and such of the European proprietors as remained were left in undisturbed possession. The peace, however, which terminated the Seven years' war in 1763, gave to Great Britain in perpetuity the islands of St Vincent, Dominica, and Tobago, while the sovereignty of St Lucia was allotted to France. In this treaty no mention was made of the Caribbs. In 1779, during the French American war, the island of St Vincent was captured by a small body of French troops sent from Martinique. The terms of capitulation, however, were favourable, and the island was restored to the dominion of Great Britain by the general pacification of 1783. The island contained at that time 61 sugar-estates, 500 acres in coffee, 200 acres in cocoa, 400 in cotton, 50 in indigo, and 500 in tobacco, besides land appropriated to the raising of provisions, such as plantains, yams, maize, &c. The Caribbs continued to harass and distress the British from the time the island was first ceded, in 1763, until their final removal in 1797. Instigated by the French residing on the neighbouring islands, who landed troops on St Vincent in 1795, they waged a new war with the British settlers, which continued for more than two years. The ravages and devastations committed by them during this sanguinary war, cost the proprietors of the lands fully one-third of the value of their estates; but they were, however, at length subdued, and removed by order of government to the island of Rattan, in the bay of Honduras, with provisions sufficient to subsist them for a time, and implements of husbandry to enable them to cultivate the land, and to raise that species of food to which they had been accustomed.

St Vincent is in many parts very fertile; and is extremely well calculated to produce sugar of the very best quality, and every other article cultivated in the neighbouring islands. It is watered by above 20 small rivers; the country is, however, in many parts *mountainous*, and has suffered by volcanic eruptions.[6] In the year 1800, the quantity of sugar made amounted to 16,518 hogsheads; and in 1810, 18,288 hogsheads were produced. In 1812, the quantity and value of the productions were stated as follows: sugar, 17,491 hogsheads; rum, 7,358 puncheons; molasses, 2,718 casks; coffee, 8,740 lbs.; cotton, 208,690 lbs. Estimated value of the preceding articles, £541,220. Estimated value of miscellaneous articles, including cattle, esculents, and fruits, £270,861. Estimated value of exports to the United Kingdom, £472,815; to all other parts, £43,186. Estimated value of imports from the United Kingdom, £154,995; from all other parts, £42,093. The population at the same date was, 1,280 white persons, 1,172 free persons of colour, and 27,156 slaves. The slave-population in 1825 amounted to 24,252. St Vincent, in its mode of government, differs nothing from Grenada: 12 members form the council, and 7 the house of assembly.

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[5] Sir William Young gives a somewhat different account of these people, and of their first introduction to this island. He says, "they were originally a race of *Macoes*, a tribe or nation from the Bight of Benin, that were wrecked on the coast of Bequin, a small island about two leagues from St Vincent, in the year 1675, and were afterwards joined by great numbers of fugitive negroes from the other islands. That the Red Caribbs first kept them in slavery; but, finding their numbers increase, came to a resolution to put to death all their male children; upon which the blacks rose on their masters, who by degrees almost all perished in the contest."

[6] The most awful visitation of this kind took place on the 1st of May, 1812. The volcanic matter not only covered the whole island in a greater or less degree, but also

The government of St Vincent has attached to it 8 small islands: viz. *Union*, containing 2,150 acres; *Bequia*, 3,700; *Canouane*, 1,777; *Mustique*, 1,200; besides the smaller islands of *Petit St Vincent*, *Petit Martinique*, *Maillereau*, and *Balleseau*, each of which produces some cotton. Among these, Bequia is valuable, from the commodiousness of its fine harbour, called *Admiralty Bay.*

X. *Dominica.*] This island lies about 29 miles S. of Guadaloupe, is 29 miles in length, and 16 in breadth. The position of *Roseau*, the capital, is in 61° 32′ W. long., and 15° 18′ 32″ N. lat. Dominica contains many high and rugged mountains, interspersed with valleys, which in general appear to be fertile. Several of the mountains contain unextinguished volcanoes which frequently discharge vast quantities of burning sulphur, and contain springs of hot water. Dominica is well-watered, there being upwards of 30 fine rivers in the island, besides a great number of rivulets. The soil in most of the interior country is a light brown coloured mould, which appears to have been washed from the mountains. Towards the sea-coast, and in many of the valleys, it is a deep black and rich earth, well-adapted for raising every tropical production. The under stratum is in some parts a yellow or brick clay, in others a stiff terrace, but the land is in most parts very stoney. In the woods are innumerable swarms of bees, which lodge in the trees, and produce great quantities of wax and honey.[7] The principal productions of the island are sugar, coffee, cocoa, indigo, and ginger. The number of sugar-plantations does not greatly exceed 50, and the annual average produce is about 3000 hogsheads. The coffee-plantations are about 200 in number, and in favourable years raise about 3,000,000 pounds weight of coffee. The cocoa, indigo, and ginger, are cultivated only in small quantities. In 1812, the quantity and value of the productions were estimated as follows: 3,809 hogsheads of sugar, 576 puncheons of rum, 210 casks of molasses, 3,285,150 lbs. of coffee, 97,816 lbs. of cotton: in all, amounting to £231,723 sterling. The estimated value of miscellaneous articles, including cattle, esculents, and fruits, amounted to £330,125 sterling. Dominica was long a bone of con-

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many ships at a great distance at sea. It even extended to the island of Barbadoes, upon which, to the astonishment of the inhabitants, vast quantities of the lighter particles of the volcanic matter were deposited on the same morning. The noise was even heard at the distance of 800 miles! In consequence of this calamity, the British parliament, in the following year, voted £25,000 to the relief of the sufferers.

[7] It is precisely the same species of bee as in Europe, and must have been transported thither: the native bee of the West Indies being a smaller species, unprovided with stings, and very different from the European.

tention between the French and the British, until, by the treaty of Aix la Chapelle, it was declared neutral. In 1759 it was captured, and by right of conquest came into the possession of Great Britain; and at the peace of Paris, 1763, it became a British colony in perpetuity. It had risen to a considerable height of prosperity, when it was captured by the French in 1778. In January, 1783, it was again restored to the British crown. Hurricanes at different times have greatly ravaged this island. This island enjoys the same privileges and has the same civil establishment as the other British West India islands. The legislative authority is vested in the governor, 12 members of the council appointed by the crown, and 19 representatives forming the assembly, who are chosen by the people. In 1812, the estimated value of the exports to the United Kingdom amounted to £243,567; to all other parts, £15,271. Imports from the United Kingdom, £63,498; from all other parts, £33,948.

XI. *St Lucia.*] The island of St Lucia lies in 60° 51′ W. long., and 14° N. lat., its north end being about 20 miles south of Martinico. It has several good bays and commodious harbours. St Lucia was declared neutral, with several others, by the treaty of Aix la Chapelle. When Dominica, St Vincent, Grenada, and Tobago, were ceded in perpetuity to Great Britain, by the treaty of Paris, 1763, St Lucia was allotted to France. During the American war, in 1779, it was taken by the British; but it was again restored by the peace in 1783. It was again taken at the commencement of the French revolutionary war, in 1794; evacuated in 1795, and retaken in 1796. It was restored again to France by the treaty of Amiens, in 1801; but was again captured by the British, soon after the renewal of hostilities in 1803, and has remained ever since under the British crown. St Lucia is 27 miles long, and 12 broad; and contains 203,000 acres, 35,000 of which are in a state of cultivation. The estimated value of productions raised annually, including cattle, esculents, and fruits, &c. according to the returns in 1812, was £595,610. The estimated value of exports to the United Kingdom in the same year, £309,989; to all other parts, £25,621. Estimated value of the imports from the United Kingdom, £11,363; from all other parts, £29,541. State of the population at the same date: 500 white persons, 350 free persons of colour, and 24,000 slaves.

XII. *Tobago.*] This island is 32 miles long, and 10 broad: and near its N.E. extremity is *Little Tobago*, an island 2 miles long and 1 broad. Tobago has a more temperate climate than is indicated by its situation, and is out of the tract of the hurricanes which so often threaten the total destruction of the other islands. It is diversified with hills and vales; the hills rise into mountains, not broken and rugged, as those of St Vincent's, but regular though steep, and on a large scale of regular ascent and descent. "The scene of nature (says Sir William Young) is on an extensive scale, and gives the idea of a continent rather than an island. It is not alone its vicinity to the Spanish main that suggests this idea. The appearance of the island fully warrants this assumption; and the contiguity of South America only more fully marks its being torn therefrom, and of its being in old times the southern point, or bold promontory of the vast bay of Mexico." The soil is rich, springs of water are abundant, and the coast affords good shelter for vessels. *Scarborough*, the principal town, lies in 60° 30′ W. long., and 11° 6′ N. lat. The island contains 204,000 acres, only 40,000 of which are in a state of cultivation, so that a large proportion of rich soil, capable of producing maize, ground provisions, and all the minor staples of cotton, coffee, cocoa, ginger, &c. is still unoccupied. The estimated value of the productions, including cattle, esculents, fruits, &c. in 1812, amounted to £516,532. The value of the exports from the United Kingdom, amounted to £113,259; from all other parts, £23,638. The population at the same date was as follows: whites, 470; free persons of colour, 250; and slaves, 17,000. In 1826 the slave population had decreased to 13,428. The military and political history of St Lucia is applicable in every important circumstance to Tobago, to which we refer, to prevent the repetition of events with which our readers are already familiar.

XIII. *The Bahamas.*] The Bahamas or *Lucayos Islands*, comprehend all that chain of islands lying to the N. of Cuba and St Domingo, and situated between the 21° and 28° of N. lat., and 71° and 81° of W. long. These islands have never been regularly surveyed, nor their numbers ascertained with any certainty. They have been estimated at 500; but of these, a great proportion are nothing more than cliffs and rocks. The following are those most worthy of attention:

Abaco,
Acklin's Island,
Andrew's Island,
Atwood's Key,
Great Bahama,
Berry Island,
Beminis
Caicos,
Castle Island,
Crooked Island,
Eleuthera,
Exumus,
French Keys,
Hog Island,
Hog Key,
Harbour Island,
Heneaguas,
Little Island,
Long Island,
Long Key,
Lucaya,
Mayaguana,
Ragged Island,
Rose Island,
Royal Island,
Rum Key,
Russel Island,
St Salvador,
Turk's Island,
Watling Island, and
New Providence.

The islands which give name to the whole are *Great Bahama* and *Lucaya*, both of them in the north part of the group. The former is 63 miles long, and 9 broad, lying on the south side of the Little Bahama bank, and extending from the Florida stream almost to the island of Abaco. The soil is fertile, and the island well-watered, but it is inhabited only by a few people, who subsist by selling necessaries to ships which the currents drive on their coasts. The passage between the island of Bahama and the continent, is called the *Channel of Bahama*, or the *Gulf of Florida*, and is 135 miles long and 46 broad. The currents here are most violent, and numbers of vessels have in consequence been wrecked in passing through this dangerous strait. The Great Bahama sand-bank extends from near the island of Cuba, lat. 22° 20′, to the Bahama islands, in 26° 15′ N. lat. There is also a smaller bank of the same name, which lies to the north of the island of Bahama. The Bahama islands have never been correctly delineated in any of the charts of the West Indies. Many of them are situated upon the Great Bahama bank, others upon the Little Bahama bank, and others out of soundings in the Atlantic ocean. The climate is in general salubrious. The more northern islands, during the winter-months, are rendered cool and agreeable by the north-west breeze from the continent of America. At New Providence, the thermometer in the shade varies from about 85° or 90° in summer, to 60° or 65° in winter. The more southern islands are hotter throughout the year, but they enjoy the cooling sea-breezes that blow in the West Indies within the tropics, and which do not extend to several of the most northern of the Bahamas.

These islands are generally low, flat, barren, and rocky. The soil is mostly light or sandy, but is interspersed with partial spots of good land. They are generally ill supplied with fresh water, but it is found by digging wells in the rocks to the depth of the sea level.

The chief article which has been cultivated in these islands is cotton, though for some time past the produce of this article has very considerably diminished. Sugar-planters have experienced little success, and the profits arising from coffee have been trifling. Guinea and Indian corn, yams, sweet potatoes, plantains, cassava, Indian and pigeon peas, grow in great abundance, as also the generality of tropical fruits. Cattle and sheep thrive in most of the islands; and the shores and creeks of all the Bahamas abound in turtle and excellent fish of various sorts. The feathered tribe, in all the variety of tropical plumage, are to be found in all the islands. Ambergris is frequently cast ashore upon the coast. Several of the islands are well-stocked with timber and dye woods. There are mahogany, brazilleto, fustic, lignum vitæ, Spanish oak, tamarind, lara wood, iron wood, wild cinnamon, pimento, satin wood, pines, cedars, and many others adapted for ship building as well as for the purposes of the mechanic and cabinet maker. *Turk's island* is perhaps the only one of the Bahamas likely to become an important commercial station. In 1812, the produce of cotton amounted to 1,348,828 lbs. valued at £50,581. Amount of the estimated value of miscellaneous articles, including cattle, fruits, &c. £219,225. Value of exports to the United Kingdom, £73,576; to all other parts, £27,230. Value of imports from the United Kingdom, £117,395; from all other parts, £38,662.

The Bahama islands were the first land discovered by Columbus in his adventurous voyage in search of a New World, in 1492. About the year 1629, a settlement was established by the British in one of the Bahama islands, called *New Providence*, before that time quite uninhabited. In 1641, the Spaniards displaced the settlers, burnt their habitations, and murdered the governor, but did not occupy the country themselves. It remained a desert unoccupied by any nation till 1666, when an attempt was made to establish a new settlement by the British, who soon after abandoned it, and it was not again peopled until the year 1690, when the proprietors of Carolina sent thither a small colony, and appointed a governor. In the year 1703, a French and Spanish army wasted and depopulated the island of New Providence, drove out the British inhabitants, carried off their negroes, and demolished their fort. These islands afterwards became the haunts of numerous pirates, buccaneers, and freebooters. In consequence of the House of Lords having addressed king George I. in 1718, to replant and again fortify the Bahama islands, a governor was sent to the island of New Providence, to whom the pirates submitted, accepting at the same time the king's pardon. From this period a regular colonial administration was maintained; but for a considerable time this does not appear to have produced any great activity in the work of cultivation and improvement. In 1782, the island of New Providence, with all the other islands of which it was the seat of government, surrendered to the Spaniards. In the following year they were again restored to Britain by a colonel Devanx, an American loyalist, who collected a small body of irregular volunteers; and with this force compelled the Spaniards, though far superior in numbers, and strongly fortified, to surrender the capital. At the termination of the American war, encouragement was held out to the loyalists, who were proprietors of negroes, to settle in the Bahama islands, for the purpose of cultivating cotton and other productions adapted to the soil; but their general sterility is such, that no progress has been made beneficial to the proprietors or to the parent state. A trade to some extent under the Free Port acts was, however, for a time carried on with the Spanish colonies, which occasioned a considerable export of British manufactures to the port of Nassau, while the inhabitants derived some advantages by fitting out privateers to cruize against the enemy. These adventitious circumstances gave a temporary importance to New Providence, favoured as it was by local situation in the neighbourhood of the Havannah. But on the other hand, the crops of cotton failing in the adjacent islands, many of the plantations were abandoned, nor is it likely that their cultivation can ever again be attempted. Previous to May 1803, lands were granted by the crown, in the whole of the Bahamas, to the amount of 265,301 acres, for the purpose of cultivation. At that time, the population amounted to about 14,318, including 11,395 blacks and people of colour. In 1812, the population was as follows: 3,600 whites, 3,300 free persons of colour, and 10,000 slaves. In 1825 the slave population was returned at 10,840.

XIV. *Trinidad.*] The island of Trinidad is separated from the continent by the gulf of Paria, and is about 60 miles long and 45 broad, lying in 9° 48′ to 10° 42′ N. lat. and 60° 6′ to 61° 36′ W. long. This island was discovered by Columbus in his third voyage, who landed here in 1498, and was named by him after the Holy Trinity, because, (says Hierera,) having been in great danger, in a violent storm, he made a vow to give that name to the first land he should find, soon after which, a sailor in the main top saw three points of land, by which the name was in every respect suitable to his vow. In 1595 Trinidad was taken by Sir Walter Raleigh; and in 1676 by the French, who plundered it and left it. It remained afterwards under the dominion of Spain, inhabited however by a mixture of several nations, until the year 1797, when it was captured by the British under Sir Ralph Abercromby; it was afterwards ceded in perpetuity to this country, by the treaty of Amiens, 1801.

Heavy rains fall here from the middle of May to the end of October, and slight shocks of earthquakes have been frequently felt. The interior of the island is mountainous, and the soil various, partaking of the general qualities of the neighbouring islands; the high lands in the northern parts of the island produce abundant crops of sugar, &c. The southern coast is well-adapted to the culture of coffee: and on the west is a large harbour, secure in almost all seasons. There is a great variety of timber in the island, some of which has grown to an immense size; and much of the wood is extremely beautiful and well-adapted for cabinet work. Wild hogs and various sorts of animals abound in the island, as well as every species of domestic fowl, and the sea coasts are plentifully stocked with fish. Indian corn, maize, cassava, and other roots, and, in general, every species of ground provisions and fruits peculiar to the other West India islands, thrive remarkably well in Trinidad. This fine island (says Dr Colquhoun) only requires an extensive and industrious white population, to render it among the richest and most productive countries in the world; since every article of superior value, in a commercial point of view, produced in tropical climates, may be here cultivated to great advantage. Provisions equal to the consumption of a very extensive population, may be reared at much less labour than in northern countries, and vast herds of cattle may be reared and fed. Much of the timber might also be converted into an important article of commerce. The state of this colony, in population and agriculture, &c. according to official returns in 1812, stood thus: white population, 2,617; free people of colour, 7,043; Indians, 1,716; slaves, 21,143; making a total of 32,519. Acres in cultivation, 27,275; uncultivated, 1,500,000, of which 147,584 acres have been granted for cultivation. Of the cultivated land there were in sugar-canes, 10,700 acres; in cotton 1,262; in ground provisions, 5,762; and the remainder in pasturage for cattle, &c. The quantity and value of the productions in 1812, was as follows: 11,800 hogsheads of sugar, 3,879 puncheons of rum, 4,062 casks of molasses, 276,243 pounds of coffee, 159,156 pounds of cotton; estimated at £386,278 sterling. Estimated value of miscellaneous articles, including cattle, esculents and fruits, £386,278. Estimated value of exports to the United Kingdom, £361,598; to all other parts, £22,519. Estimated value of imports from the United Kingdom, £571,317; from all other parts, £75,701.

This island, situated at the eastern extremity of Terra Firma, from which it is only four leagues distant, is the natural magazine and resort, where the contraband traders of Cumana, Barcelona, Margaritta, and Guiana, make their purchases. The position of Trinidad is singularly favourable to this commerce. The continental coasts, extensive, defenceless, and to leeward, offer both to the British and Colombians the greatest facility for prosecuting it. The gulf of Paria, which washes the western part of Trinidad, receives the waters of the river Guarapiche, which penetrates the province of Cumana. By this river animals for labour and for the shambles, are brought from Terra Firma to Trinidad; and through the same channel, all the contraband articles consumed in this province can ascend with perfect convenience, or may be landed at several points without the least danger. In general, the cargoes which are destined for Barcelona proceed up this river; they are thence distributed to the Caraccas and other neighbouring provinces. The mouths of the Oroonoko, which cross the gulf of Paria from south and north, open to this island the commerce of Guiana, whither the surplus goes by the river Apure to Barquisemeto, Truxillo, Varinas, Merida, &c.[8]

CHAP. II.—SPANISH WEST INDIA ISLANDS.

THE West India islands colonized by Spain are not numerous. *Puerto Rico* and *Cuba*, in the northern group, and *Margaritta* and some others, on the coast of the Caraccas, compose the whole of the islands in the West Indian seas. Of these, Puerto Rico and Cuba are the most important; Cuba being the largest as well as one of the most fertile islands belonging to any European power in the American seas. These islands were divided into three governments: Puerto Rico was a *capitaneria generale*, under the title of captain-general of the Havannah,—an officer of high rank governed Cuba and Florida, and his situation was the most important of any of the *capitanerias generales* of Spanish America; the captain-general of Caraccas governed the island of Margarita, and the others on the coast of his province.

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[8] The great influx of currents into the gulf of Paria, from the coasts of Brazil and Andalusia must bring down a vast quantity of light earthy particles from the mouths of the numerous large rivers which traverse those parts of the continent; but these currents being repelled by the sides of adjacent mountains, eddies and smooth water will be produced when they meet and oppose one another, and therefore earthy particles will subside and form banks of mud, and by the accession of fresh accumulations form dry land, and thus such a tract of country as Trinidad may have been formed. These causes are, in fact, still operating, for the island is daily increasing on the leeward side, as is visible in the mud beds which extend a great way into the gulf, and are there constantly augmented. But from the great influx from the ocean at the south end of the island, and its egress to the Atlantic again through the Bacas, a channel must ever exist between the continent and Trinidad.

I. *Puerto Rico.*] The island of Puerto Rico is situated in the Caribbean sea, between the island of Hayti, or St Domingo, and the Virgin islands. It occupies a space between 65° 30′ and 67° 45′ of W. long., and between 18° and 18° 35″ of N. lat.; its length being 120 miles, by 40 in breadth. Columbus discovered this island during his second voyage, in the year 1493. Juan Ponce de Leon colonized Puerto Rico, in 1509, when he subjugated the country: the native Indians were at that time very numerous, but have since disappeared. Puerto Rico is an important island; its productions are very valuable in European commerce, and the climate is more healthy and temperate than that of the other islands of the Caribbean seas. The mountains are not of any very great altitude, but form a beautiful feature of the landscape,—their gently undulating surfaces contrasting finely with the picturesque and well-watered valleys. The rivers are of no great size, but agreeably diversify the picture; and being very numerous, are exceedingly useful to the purposes of agriculture. The interior, and part of the sea-shore to the north, is still covered with the original forests, in which roam large wild dogs; these dogs are the remains of a race brought from Spain by the first conquerors of the island, to assist in hunting down the natives, who fled for protection to the fastnesses of the interior. These forests also abound with parrots, pigeons, and other birds peculiar to the West India islands, as well as with land-crabs, which are as numerous here as in any of the Caribbean isles, and on whose flesh the wild dogs are supposed to subsist.[9] Cattle of superior qualities, originally brought from the mother-country, are fed in this island; poultry are also very cheap and plentiful, and the rivers and sea supply the inhabitants with every variety of fish. The southern coast is the most healthy as well as the most fertile; producing for the commerce of the inhabitants, sugar, coffee, cassia, flax, cotton, ginger, and the odoriferous gums used in such great quantities in Roman Catholic countries; these, with hides and tropical fruits, compose the chief articles of their trade with Europe, &c. They have here a fine breed of mules, which are sought after, from the British islands in the neighbourhood. The northern side, which is comparatively sterile, is supposed to contain, in the higher lands, some gold and silver mines; but of the existence or value of these nothing certain is ascertained. With all these bounties, so lavishly bestowed by the hand of Nature, Puerto is subjected occasionally to a dreadful calamity. In the year 1742, a terrible tornado overturned the labour of years, and destroyed the plantations, which did not recover the shock they received for many years afterwards; these hurricanes occasionally visit the island at present, but none of so calamitous a nature has been experienced since that period. The total population of the island is calculated at 130,000, of whom 25,000 are slaves. The capital, and residence of the governor, is situated on a peninsula on the northern shore. It was founded in 1514, and named *Puerto Rico;* from whence the whole island has received its appellation; having been called Borriquen by the natives when first discovered. This town is also called *St Juan de Puerto Rico;* and is situated in 18° 29′ N. lat., and 66° W. long.; a fort, called St Antonio's, protects it on the S. W.; and it has also a citadel and other fortifications, with a very good harbour. The amount of its population is not exactly known; Morse estimates it at 30,000; but it probably does not amount to the half of that number. This city has often been attacked; in 1594, by Sir Francis Drake, but without success; in 1597, by the Duke of Cumberland, (who took and plundered it and the island;) and again by the British in 1797, who were, however, as unsuccessful as Sir Francis Drake. The plantations and small towns of the island are very numerous, but mostly too insignificant for notice. Puerto Rico drew from Mexico, for the expenses of its administration, the sum of 377,000 piastres annually. Its defence consists chiefly in the country militia. It has hitherto adhered to the royal cause.

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[9] The natural history of these crabs is highly singular. At certain seasons of the year, these singular animals, which greatly resemble the sea-crabs in shape and manner of moving, leave the mountains in which they have formed their burrows, and move in immense cavalcades down to the sea-coast, for the purpose of depositing their young in the waters. At this period nothing arrests their progress; they move continually in the same line; if they meet with a wall, they climb up one side, and down the other, and the clattering noise produced by their claws is surprising. After depositing their young, they return to their haunts in the same order, and are followed by the young crabs as soon as they attain sufficient strength to perform the journey.

II. *Cuba.*] Cuba, the largest as well as the most important of the islands in the West Indian seas, is situated to the south of Florida, between the northernmost part of Yucatan, and the westernmost point of the island of Hayti. The westernmost part of Cuba nearly shuts in, with the northern shore of Yucatan and the western coast of East Florida, that immense basin known by the name of the gulf of Mexico. It is thought that Cape Catoche, in Yucatan and the most western headland of Cuba, must have been formerly united by an isthmus, which has been gradually worn away by the pressure and action of the waters of the Caribbean sea. Should this have actually been the case, the Mexican gulf must have been very shallow, as we find that the passage of the waters of the South Atlantic, impelled by the trade-winds through the strait formed by Cuba and Yucatan is, although it has considerable breadth, so very forcible as to send a vast stream, or current, with great impetuosity round the gulf and through the straits of Florida, as far as the banks of Newfoundland, and to the northern shores of Europe. This stream is distinguishable in the North Atlantic by its superior heat to the rest of the waters of that ocean; and by a body of sea-weed which constantly accompanies it. The extent of Cuba is from 73° 50′ to 85° 30′ W. long. from E. to W. Its form is so curved that it lies, although narrow, between 23° 20′ and 19° 40′ N. lat.; it is about 700 miles long, but not more than 70 in medial breadth. Its position gives it the command of the gulf of Mexico, by the straits of Yucatan and Florida, as well as the navigation of the windward passage and channel of Bahamas. The fine harbour of the Havannah, and some other smaller ports, rendered this island, with these advantages, the most important of the West India islands, particularly to Spain, possessing as she did the shores of the Mexican gulf. The Spanish government have accordingly spared no expense in fortifying the Havannah, on which they seem to have placed their chief dependence for the security of their ultramarine colonies.

The climate of Cuba is better than that of any other island in the West Indian seas, excepting Puerto Rico; it is mild and temperate,—there is no winter,—and the summer-heat is moderated by the rains and sea-breezes, the periodical rains lasting during the months of July and August. The fertility of Cuba is celebrated: spices, among which are pepper and ginger, cassia, manioc, cacao, maize, aloes, mastic, sugar, tobacco, the flavour of which is superior to that of any other part of the world, known in commerce by the name of Havannah, and sold to an enormous amount in cigars, with many other articles, the produce of tropical climates, constitute the riches of this fine island. Coffee, though cultivated, is so little attended to in the plantations that little is grown for exportation. Honey is one of the great articles of the export trade, and, together with wax, is annually produced to a great amount. Cattle, originally from Europe, have multiplied so much in Cuba, that they have become wild, and frequent in immense droves the forests and savannahs or marshy plains; they are hunted for the sake of their hides and tallow, which are exported to a great amount. The forests also abound in swine, which have multiplied in a similar manner; and the inhabitants possess large stocks of mules, horses, fine black cattle, and sheep, all of which thrive very much. The woods consist chiefly of timber of valuable qualities; the red cedar, oaks, firs, palms, mahogany, ebony, *lignum-vitæ;* and woods producing gums, aromatic and medicinal. The rivers and coasts abound with fish, and fine turtles frequent the shallows. The birds of Cuba are principally the parrot, the paroquet, American partridge, turtle dove, and great variety of aquatic birds. In this island there are supposed to exist veins of gold and silver, because the inhabitants procure a small quantity of those metals in the sands of the rivers which descend from the mountains. The great metallic production of Cuba is copper, of which some valuable mines exist in the eastern part of the island, with which a trade is carried on among the West Indian islands and the ports on the southern content.

Only about one hundredth part of the island of Cuba is supposed to be under a state of cultivation. The inhabitants consist of Europeans and their descendants, and negroes; the amount of the former, in 1820, being 373,071, and of the latter 199,292, making a total of 572,363 inhabitants, which later returns have carried to 631,000. A chain of mountains runs the whole length of Cuba, from E. to W., following the curvature of the country. This chain divides the island naturally into two parts: though these mountains do not acquire any very considerable elevation, they give rise to numerous rivers, which flow into the ocean on each side; and sometimes, during the rainy season, inundate the low lands. Cuba, as well as all the other islands of these seas, is exposed occasionally to the devastating effects of hurricanes; but on the whole it is more free from them, as well as from disease, than any of the others, and may be looked upon as the healthiest, the most fertile, and the most secure of the West India islands.

The governor of Cuba has a very arduous and extensive jurisdiction, during war particularly; he has accordingly in the island 14 subordinate governors, who preside over as many districts into which Cuba is divided. An intendant superintends the finances and commerce of the island, and is subordinate only to the captain-general. The religious affairs of Cuba are superintended by a bishop, who resides at Havannah, and whose income is considerable. The revenues of the island are said to amount to more than 2,000,000 of piastres per annum; but the expenses of administration were so great, that it received from Mexico 1,820,000 piastres during the same period. The military force of Cuba consists chiefly in militia, the amount of which is stated to exceed 26,000. Cuba, like Puerto Rico, has hitherto adhered to the royal cause.

The capital of this island is *Havannah,* founded by Valasquez, in 23°

12′ N. lat., and 82°14′ W. long. on the north coast, opposite to the Floridas. The harbour is very fine, and capable of containing the largest fleet in safety, both it and the town have been fortified as strongly as possible. The only fault in this excellent harbour is, that the entrance is very narrow and difficult; so much so, that during war, vessels have been taken going in, on account of only one being able to pass at a time,—the rearmost vessels have fallen into the hands of the pursuing ships. This channel is, however, so strongly fortified during its whole length, that it would be hazardous in the extreme for an enemy's fleet to enter. The entrance has a fort on each side; that on the east, called *Moro Castle*, stands on a high rock, and is a triangular work, mounted with 40 pieces of heavy cannon, having a battery nearly level with the water at the foot of the rock: that on the west is called *Punta*, and communicates with the city. This is a square fort, strongly built, and well supplied with artillery. The city is surrounded with works, mounted with numerous heavy guns; a square citadel is also erected near the centre of the town, called *El Fuerte;* this work also has heavy cannon, and it is on this the Spanish government place their chief dependence. But the fortifications are said to be commanded by hills in the immediate neighbourhood. The importance of this city and harbour has caused it to be repeatedly attacked; it was taken in 1536, by a French pirate, but ransomed for 700 dollars; it was again taken by the British, and by the French, and by the Buccaneers; but the most memorable attack was that executed by the British in 1762, when admiral Sir George Pococke and Lord Albemarle conducted a fleet and troops to the Havannah, and after a determined resistance of two months and eight days, on the 14th of August obtained possession of the place. The victors captured 9 sail-of-the-line, 3 more were sunk by the Spaniards, 2 on the stocks were burnt, and a great many merchant vessels loaded with valuable cargoes completed the spoil. The merchandise and specie found in the place was supposed to amount to £3,000,000 sterling. This city was restored to Spain at the peace of 1763, since which period the government has been constantly employed in increasing its strength and resources. The trade of this port is computed to amount, by importations, to £2,200,000. The exportations—chiefly segars, sugar, honey, wax, and coffee—amount to £2,500,000. The number of vessels which entered its port in 1826 was 1,029, of which 720 were American, 95 Spanish, 91 English, and 47 French. The inhabitants of the Havannah amount—according to Humboldt—to about 130,000, of whom 22,000 are slaves. We confess that this enumeration appears to us too great; but cannot take it upon us to correct it. The other principal towns of Cuba are *St Jago, Puerto del Principe, Bayamo, Trinidad, Baltabano, Santa Cruz, Baracoa,* and *Cadiz.*

St Jago was formerly the capital of this island, and is situated in 20° N. lat. and 76° W. long., 269 leagues from the Havannah. The country about St Jago is mountainous; and this part of the island is frequently visited by earthquakes, which are generally of a slight nature. The harbour of St Jago, or Cuba, is very good, and extends 6 miles inland; but the entrance to it is similar to that of Havannah.

Puerto del Principe, or *Villa del Principe,* is 145 miles N.W. of St Jago, and is remarkable for the fertility of the country around it; large droves of cattle are fed in the savannahs for the sake of their tallow and hides.

Bayamo, or *St Salvador,* is situated in the eastern end of Cuba, and on the little river Estero, nearly 20 miles from the ocean. This town gives its name to the *Bayamo channel*, which runs amongst the land and low rocks which Columbus called *Jardin de la Reyna*, or 'Queen's Garden.'

Trinidad, situated on a bay in the south coast, is a fine sea-port, but of little consequence.

Baltabano is nearly opposite the Pinos islands, on the S. side of the island of Cuba, near a very large bay, 50 miles S.W. of the Havannah.

Baracoa is a sea-port on the N.E. shore of the island, with an excellent harbour for vessels of small tonnage, about 17 leagues N.E. of St Jago.

Santa Cruz is a large town on the N. coast, 30 miles E. of the Havannah, and 115 N.W. of Cadiz.

Cadiz is situated in Cadiz bay, on the N. coast of Cuba, 164 miles E. of Havannah, and about 10 miles E. of Cadiz river.

Round the island of Cuba are several groupes of rocks, and one large islet named *Pinos*, which is situated near the S.E. coast of Cuba, and separated from it by a channel 16 leagues long, and 6 wide; this island has several good and secure roads, but it is uninhabited, except by a few fishermen who occasionally dwell on its coasts. The only animals on it are goats, but it abounds in pastures and large trees. Pinos is about 42 miles long, and 34 broad, in 21° 38′ N. lat. and 82° 45′ W. long.

III. *Margarita.*] This island, which is about 30 leagues in circumference, under the regime of Spain, formed a government separate from that of Cumana, on whose shores it lies, and dependent on the captain-general of Caraccas. It lies in N. lat. 10° 56′, and in 64° and 65° W. long. It was discovered by Columbus in 1498. The pearls found on the coasts of this and the neighbouring isle of Cubagua soon rendered it famous, and the fishery was carried on at the expense of vast numbers of Indians who lost their lives in the undertaking. The possession of Margarita was an object of great consequence to Spain, as it is separated from the continent by a strait only 8 leagues wide, and to windward of all the best ports of Caraccas, and forms the channel through which all vessels coming from Europe or windward, to Cumana, Barcelona, and La Guayra, must pass, though it is not navigable in its whole breadth; the rocky island *Coche*, between it and the continent, leaving only a narrow pass of two leagues, but which is seldom dangerous, owing to the general calmness that reigns in this part of the Caribbean sea. It is now in the hands of the Colombians, who succeeded, after a desperate struggle, in driving the royalist forces from it. In this island there are only three ports, *Pampater*, on the E.S.E.; *Pueblo de la Mar*, a league to leeward of the preceding, and *Pueblo del Norte*, on the N. side. The population of Margarita has been estimated at 14,000 persons, consisting of 5,500 whites, 2,000 Guayqueria Indians, and 6,500 Castes.

CHAP. III.—HAYTI.

HAYTI, or St Domingo, lies between Puerto Rico—from which it is separated only by a narrow channel—on the E., and Jamaica and Cuba on the W. The channel between the latter island and Hayti is denominated by seamen *the windward passage*, and is about 36 miles wide. It extends from 17° 42′ to 19° 56′ N. lat., and from 67° 35′ to 74° 15′. W. long. There are a variety of statements with respect to the dimensions of this island: Edwards fixes the length at 390 miles; Rainsford says it is more than 450; the Abbé Raynal represents it as 200 leagues in length; and modern French geographers state that it is 160 leagues in length by 30 in average breadth. Several small islands lie round St Domingo, the principal of which are *Altarde*, *Saone*, *Beati*, and *St Catherine* on the S. side, from W. to E.; *Mone* and *Monique* on the S.E. side; *Guymete* and *Conceves* on the W.; and *La Fortue* on the N. side. By the aboriginal inhabitants, this island was called *Hayti*, that is, ‘the high or mountainous land,’ and under this revived name it has become famous in modern history, as a vast island occupied by men, who, suddenly passing from the condition of slaves to that of free men, established their political power with their personal liberty. “A people of uncivilized men, who became in a few years civilized and even refined, and formed a dynasty and a government for themselves, presents a spectacle at once novel in the history of the species, and attractive from the extraordinary incongruities which it appears to involve and to reconcile. The proximity of this scene to our own settlements, and the great similarity of their circumstances to those in which so strange a revolution was effected, adds mightily to the importance of the subject.” We shall therefore offer no apology for the introduction here of a succinct historical sketch of this event.

History.] On the 6th of December, 1492, Christopher Columbus landed on the northern coast of this island, to which he gave the name of *Hispaniola*, or ‘Little Spain.’ He found it at this period divided into 5 kingdoms, governed by caciques, and living in a state of mutual amity and intercourse. The natives appeared to be of Caribbean race; they were simple in their manners, and chiefly supported themselves by the chase. Columbus left a detachment of Spaniards on the island, under charge of his son. These colonists founded St Nicholas; but their excesses roused the resentment of the surrounding natives, who rose upon them, and completely destroyed their establishment. The Spaniards thereupon betook themselves to the southern coast, where they founded the town of *St Domingo*, which afterwards gave its name to the whole island, the subjugation of which was effected by the Spaniards in 1495. About the middle of the 17th century, a number of buccaneers, most of them natives of Normandy, settled themselves in Tortuga, a small island lying to the N. of St Domingo. From this place they made constant incursions against the Spanish settlements in this island, by them denominated *Hispaniola*, or ‘Little Spain;’ till at last, by the treaty of Ryswick, that part of the island in which these buccaneers had established themselves was ceded to the French king, who had acknowledged them as his subjects, and taken them under his protection. The island after this period was divided into two parts: that which is now properly and strictly called *Hayti*, and *Hispaniola*, the former comprehending the French division, and the latter what belonged to the Spaniards. The ancient divisional line which separated these two parts stretched from the river Pedernatis, on the S. side, to the river Massacre on the N. side, at the head of the bay of Mancenille. The Spanish part was reckoned to contain about 90 leagues in its extreme length from E. to W., and about 60 leagues in its greatest breadth, having a surface of about 3,200 square leagues. The Haytian or French division extended 400 miles in length, and 140 in breadth, and contained 1,500,000 acres in high cultivation before the commencement of the French revolution in 1789.

No event of any importance occurred in the history of this island after the cession of a division of its territory to France, except the attempts made upon it by admiral Penn, in 1692,—a dreadful mortality, occasioned by the measles and small-pox, in the year 1666, which is still remembered by the appellation of *La Tragedia de los seisis*, or 'the tragedy of the sixes,'—and a revolt of the blacks in 1722. When the French revolution began to assume its wild and violent character, the instant emancipation of the slaves in their West India islands was one of their first measures. At the same time the white slave-owners were adopting with ardour the republican principles of the revolutionists as far as regarded their own allegiance to the parent-state. On the one hand, the government, embued with the spirit of the ancient regime, sought support against the democratic colonists by an alliance with men of colour; on the other the colonists resisted the attempt to apply the new maxim to people of colour; and amidst all the excess and insubordination which resulted from the conflicting feelings and views of the colonists and the government, the slaves awoke from their sleep of servitude, and all the horrors of a civil war instantly ensued. In 1791 the slaves rose and massacred the whites, and in a very short time the French division was rendered desolate and barbarous, and all the white families that had it in their power emigrated. The British, desirous to take advantage of these disturbances, landed a body of troops in 1793; but after the loss of a great number of soldiers, principally by the unhealthiness of the climate, they were obliged to evacuate it. In 1795 the Spanish government ceded their part of the island to the French. When the insurrection of the Negroes first broke out, in 1791, it found Touissaint Louverture raised by his master to the rank of postillion. At first this man refused to join them until the insurrectionists, having become better organized, had renounced their massacres and contented themselves with victory. He then no longer hesitated to range himself under banners which from that moment he led constantly to glorious combat, but never to devastation or to carnage. After having been the liberator of his country, he became its legislator. His constitution of the 1st of July, 1801, procured many years of happiness and prosperity to his country, and the last traces of devastation had begun to disappear, when suddenly the armament of general Leclerk appeared in sight of the Antilles. This expedition was in the highest degree disgraceful and disastrous. By an act of the greatest duplicity, Touissaint indeed was removed out of the way; but the French troops, after being repeatedly defeated, and losing an immense number of men, were ultimately compelled to evacuate the island with the exception of a very small force which withdrew into the city of St Domingo. The blacks now formed themselves into a regular government, and their chief, Dessalines, having driven the French out of the island, assumed the supreme authority and the title of emperor. Dessalines was of a most ferocious disposition, and was shot by one of his own soldiers, a mulatto youth not exceeding 15 years of age, on the 17th of October, 1806.

The empire of Hayti—for so it was denominated—was now disputed by many chiefs. The most celebrated and successful of these were Petion and Christophe; the former of whom, under the name of president, held possession of the southern part of the island, and the latter, with the title of king, of the northern. Christophe is said to have been born in the island of Grenada, and to have been a slave in St Domingo at the breaking out of the revolution in 1791. He had been an early friend and faithful adherent of Touissaint, to whom he displayed some similarity of character. He was known to be a man of great bravery and military skill; and his disposition was at first considered as humane and benevolent. The regulations adopted by Christophe on his accession to the government displayed great good sense, and a mind much enlightened on subjects of general policy. The tranquillity of the country was however soon disturbed by the appearance of another candidate for sovereign power, in the person of Petion. Petion was a Mulatto general, who had succeeded to the rank of third in command; and, at the death of Dessalines, was commander-in-chief at Port-au-Prince. He had been educated in the military academy at Paris, and was known to be a man of letters, of mild disposition, and engaging manners. Each chief in support of his claims had recourse to arms; and the struggle between them soon became very fierce. On the 1st of January, 1807, a battle was fought between the two parties, when Petion was defeated, and pursued by Christophe to the gates of Port-au-Prince. In hopes of completing his triumph over his rival, Christophe laid siege to that city; but the necessity of his presence in order to the establishment of his authority in other parts, generally favourable to him, but not without partial dissatisfaction to his cause, induced him to raise the siege and retire towards Cape Francois. He found no difficulty in establishing his sway over the northern districts of the island. A council was speedily convened at Cape Francois, composed of the generals and principal citizens, who formed a new constitution for the future government, which was published on the 17th of February, 1807. This constitution declared, that every person residing on the territory of Hayti was free in the fullest sense; and that slavery was for ever abolished within its limits. The government was vested in a chief magistrate, who was to take the title and quality of president and generalissimo of the forces both by sea and land. This office was for life; but the president had a right to choose his successor from among his generals only. The council of state was composed of 9 members, of whom two-thirds were to be generals. This council was a deliberative body; but as the appointment of the members was confided to the president, the government, though approaching nearly to an oligarchy, had the strongest features of a monarchical preponderance without the name of royalty. The Roman Catholic religion was declared to be that of the state; but the exercise of every other was to be tolerated. Schools were to be established in each district, and every Haytian, from 16 years of age to 50, was liable to military service. It was carefully announced as a fundamental part of the act of state, that the government would give no disturbance to the colonies of other nations; and that the Haytians would make no conquests out of their own island. But the struggle for sovereignty still continued, and a sanguinary war was carried on between the rival chiefs for several years. The chief seat of contest was the mole of St Nicholas, where numerous exploits of personal bravery were achieved on both sides. At length this place, which was occupied by a part of Petion's army, was formally invested by Christophe in person, and after 20 days of regular siege, the garrison surrendered at discretion, and were united to the army of the conqueror. After this event, which took place in October, 1810, the principal part of the besieging army were allowed to go to their homes, and their chief himself returned to Cape Francois. Christophe had taken advantage of the state of anarchy which prevailed in Spain, to endeavour to effect a good understanding with the Spanish inhabitants of Hayti, who manifested a corresponding disposition, and amicable and commercial relations were accordingly established between them. In November, 1809, the town and port of Samana, and a number of vessels in the harbour, were taken by a small British squadron; the French troops were made prisoners, the vessels were seized as prizes, and the place was delivered up to the Spaniards. In July, 1810, a British force, under the command of general Carmichael, sailed from Jamaica, to co-operate in the reduction of the city of St Domingo, the last post which the French retained in the island. The governor, Barquier, having capitulated, the officers were sent to France on their parole, and the private soldiers became prisoners of war. Thus the Spaniards regained possession of their capital, after it had been in the hands of the French about 8 years.

In the spring of the year 1811, Christophe exchanged the title of president for that of king. This alteration was made under the authority of the council of state, assembled at Cape Francois, "for the purpose of revising the constitution of February, 1807, and deliberating upon the alterations which it required." They professed to have considered it, at the period of its formation, as very imperfect, though adapted to the existing exigencies; and declared the fit time to be now come for retouching and perfecting their work, amending their code of laws, and fixing permanently the mode of government adapted to their country. They declared their opinion, and the opinion of the people at large, to be, that it was necessary to establish an hereditary monarchy; the government of one individual, being the least subject to troubles and reverses, and uniting in the highest degree the power of maintaining their laws, protecting their rights, and defending their liberty at home, and of making them respected abroad, that the title of governor-general, conferred upon Touissaint, was not suitable to the dignity of the supreme magistrate of a country; that the title of emperor given to Dessalines was inappropriate, except to one who possessed authority over various states and territories; that the title of president hardly conveyed the idea of supreme power; and that no title was so proper as that of king. They further declared the establishment of royalty, in the person and family of the chief who had governed them for several years with so much credit to himself and advantage to the people, to be an act of necessary duty and national gratitude. With the establishment of a throne, they decreed the foundation of a rank of hereditary nobility, into which were to be admitted all such persons as had rendered important services to the country, either in the magistracy or the army, or in the departments of literature or science. On this basis the council of state framed a constitutional act establishing the regal dignity in the person and family of Christophe, appointed the various officers of state, and made such other additions to the constitution of 1807, as the alteration in the form of government was thought to require. This act was soon after publicly promulgated, and appears to have been received by the people at the time with general satisfaction. Immediately after the act of the council of state, Christophe assumed the title of king Henry, and surrounded himself with all the usual appendages of royalty. On Sabbath, the 2d of June, 1811, he and his wife were crowned with great pomp in the Champ de Mars, at Cape Francois, now called Cape Henry. After the ceremony of consecration, the king and queen, and some of the great officers of state, received the sacrament from the hands of the archbishop, and the day was closed with an entertainment of uncommon splendour.

The various institutions of this new kingdom were copied from the monarchies of Europe, and particularly from France; they had their princes of the blood, their dukes and counts, barons and chevaliers; their grand marshal, grand almoner, and master of ceremonies; their levee-days, and drawing-rooms; their royal birth-days, coronation-day, and other national festivities; their royal palaces, chamberlains, pages, and body-guards; their royal and military order of St Henry; their chancery, and other courts; their notaries, solicitors, barristers, and judges; their intendants, surveyors, and directors of different departments; their royal academy and theatre royal: and some of their arrangements were announced to the world, in a style which exhibited a mixture of oriental inflation and French gasconade. But all this need excite no surprise, when it is remembered from what a condition the people had emerged, what complete success had crowned their struggle for independence, and the example afforded them, in the proceedings and language of the imperial cabinet of Paris. Besides, no impartial observer could withhold his admiration from the high state of order and civilization which prevailed in the dominions of Christophe.

In the long and sanguinary war which had been carried on between the rival chiefs, the preponderance of success was rather in favour of Christophe; but their forces proved to be on the whole so nearly balanced, as to preclude all expectation that in any short time the one would be able to subdue the other. Neither could it escape the observation of either party, that continued hostilities would eventually enfeeble both, so as to render them an easy prey to their former oppressors. In consequence, probably, of this view of the matter being entertained by both parties, hostilities were at length suspended as if by mutual consent. No battle was fought, nor any hostile movement made, for more than 6 years; so that, though there was no treaty of peace, or formal armistice concluded, yet perfect tranquillity prevailed throughout the island. Both Christophe and Petion appear to have applied themselves with great assiduity to the encouragement of industry and good morals, and the diffusion of knowledge in their respective territories; and likewise to the preparation of adequate means of defence, against any attempts that should be made on their liberty and independence. The organization of the districts, under the government of Petion, though differently and more modestly constructed, was not less complete. No titles of nobility were adopted by him; but there were the same gradations of military rank, the same distribution of administrative offices, the same care in keeping up and disciplining a military force, and the same solicitude on the grand subject of public instruction.

The full occupation which Bonaparte found for his armies in Europe, and the exclusion of his squadrons from the sea by the naval power of Britain, preserved the island of St Domingo from any further annoyance on the part of France. But no sooner had Bonaparte ceased to reign, and Louis XVIII. ascended the throne of his fathers, than the ex-colonists renewed their attempts for the recovery of their lost possessions. With this view, they presented a petition to the chamber of deputies, calling its attention to the state of the island. The petition was referred to a committee; and the chairman, Desfourneaux, who had formerly served in the colony, reported the result of their deliberations. He began with an exaggerated statement of the commercial advantages which had accrued to France from the possession of St Domingo. He next proceeded to examine the means of re-establishing the colony; and asserted that, from his own knowledge of both Christophe and Petion, he fully believed they would be eager to acknowledge the sovereignty of the king, in which case it was proposed, that his majesty should be entreated to grant to them, and to various other black chiefs named in the report, all the marks of honour, and all the pecuniary advantages befitting their situation, and that of the colony; but as this hope might by possibility be disappointed, his majesty was advised to send a sufficient number of land and sea-forces to occupy the colony. The re-possession and re-cultivation of this island appear to have been favourite objects with a considerable number of the leading men of France; and, in the hope of effecting them, the French cabinet, though placed in circumstances which prevented the total rejection of the proposal of Great Britain for an abandonment of the African slave trade, yet refused an immediate relinquishment of that abominable traffic, and stipulated for its continuance for five years, promising by treaty its definitive cessation at the end of that period. Five years, they thought, would be sufficient to supply the plantations of St Domingo with as many cargoes of slaves as should be wanted, in addition to the myriads of negroes and mulattoes who were again to be brought under the yoke.

As soon as the designs of the French government were known in St Domingo, there was published in the royal gazette of Hayti, an address to the people, explaining to them, the new political relations in which they were placed, by the peace between France and the other powers of Europe. After expressing the joy, which they could not but feel at the downfall of the man, who had endeavoured to exterminate them, or to subject them again to the yoke of bondage, and with whom they had determined never to enter into any amicable engagements, this document intimated that there existed not the same reasons for rejecting peaceful overtures from the new monarch of France, but that in the event of his manifesting a friendly disposition, it would be advisable to form with him a treaty of amity and commerce, compatible with the honour, liberty, and security of Hayti. It proceeded to call upon the Haytians, to make every exertion in defence of their liberty, against any who should attempt to enslave them; and in the most energetic language, bade defiance to their foes. This address appeared on the 15th of August; and on the 18th of September, was published a manifesto of king Henry, giving a detailed narrative of the events which had produced and accompanied the independence of Hayti, justifying before the tribunal of nations the legitimacy of that independence, and expressing a firm resolution to maintain it.

In the month of June, 1814, Malonet, the minister of the colonies to Louis, sent to the West Indies three commissioners, for the avowed purpose of obtaining and transmitting to the French government information respecting the state of St Domingo, and the disposition of its chiefs. These commissioners endeavoured, by the most artful misrepresentations, to win over and intimidate both Petion and Christophe to their purposes; and although the king of France formally and officially disclaimed any participation in their proceedings, and declared their mission to have been directed to the single point of procuring information to guide the deliberations of the French government, yet the well known character of Malonet, the minister by whom the commissioners were sent, left little room to doubt that the conduct of the agents had been conformable to the spirit at least of the secret instructions received from their employers; and the subsequent disclosure of those instructions established this fact beyond all contradiction. The party of the ex-colonists, however, was so powerful at the court of Louis, that preparations were actually made, and an expedition was intended to sail in the spring of 1815, for the purpose of reducing the inhabitants of St Domingo to their former servitude, or sweeping them from the face of the earth; but the return of Bonaparte from Elbe defeated these projects. Bonaparte thought it politic to issue an edict for the abolition of the slave-trade, and soon after sent overtures to St Domingo which had for their object to bring back the island to the condition of a French colony; but his propositions were immediately rejected with disdain, and during the short period that passed before his second fall he was too much occupied with European warfare to admit of his annoying the inhabitants of Hayti.

As soon as Louis was replaced upon his throne, the ex-colonists renewed their intrigues, and employed subaltern and ex-official agents to make further overtures to the Haytians, with the same insidious purpose of reducing them again under the power of France. In July, 1816, the king of France, on the report of the secretary of state for the department of the marine and the colonies, issued an ordinance, naming and appointing several commissioners to St Domingo, who were to be invested with the administration of all the affairs of the island, both civil and military. These commissioners—who were all ex-colonists, and men who had become particularly obnoxious to the negroes and people of colour—proceeded towards the intended scene of their mission, and skulking along the coast in an American vessel, sent on shore letters addressed to *Monsieur le General Christophe*—a superscription, which having become obsolete, and being deemed injurious and insulting to the existing order of things in Hayti, caused the papers to be instantly returned unopened. They then resorted to the expedient of enclosing their communications in an envelope, addressed to the commandant of the port of Gonaives. These papers served only to excite the contempt of the Haytians, to produce fresh abjurations of all connexion with France, and to strengthen their resolutions to maintain their liberty and independence.

In 1818 Petion died, and was succeeded by general Boyer, who immediately renewed the war with Christophe, or king Henry, who, notwithstanding of some good qualities, and many efforts for the improvement of his people, was daily losing his hold upon their affections. The system pursued by Christophe had become too despotic for the people; exceeding the bounds of prudence, his ambition had no limits, and his tyranny and oppression became at last so insupportable, that neither the people nor his troops could any longer submit to his power and caprice. A revolution ensued. It was on the 3d of October, 1820, that the garrison of St Mark's sent their submission to Boyer, along with the head of Jean Glonde, king Henry's governor; the garrison of the city of Cape Haytian, headed by general Richard, followed their example on the 6th. On the 8th Christophe seeing his affairs desperate, shot himself; his family fled to the fortress of Ferriere in the neighbourhood of the Cape, where they speedily fell into the hands of the president, with all the treasures of the ex-king. Boyer entered Cape Haytian on the 24th, with an army of 20,000 men, and general Romain, who had taken post on the mountains of Gros Morne, immediately submitted, on condition of being admitted with his army citizens of the republic. This was followed by an address to the people, and to the army, signed by all the generals and 45 of the principal inhabitants, declaring that there now existed only one government and one constitution in Hayti.

Jean Pierre Boyer, the present chief of the republic of Hayti, is a native of Port-au-Prince. His father was a store-keeper in that town; his mother was a negress of the Congo country. Having resided in France some time, he, with many other persons of colour, attached himself to the expedition of Le Clerc, and accompanied that armament for the subjugation of the colony; but on the death of Le Clerk he joined Petion, who successively appointed him to be his aid-de-camp, private secretary, chief of staff, general of the arrondissement of Port-au-prince, and finally named him his successor in the presidential chair. After Boyer's succession to the government, a negotiation with France was entered into on the part of Hayti, for the purpose of securing its independence by a formal recognition. An ample indemnity was demanded by the former, amounting to about £4,000,000, and this was in a train for adjustment; but the whole negotiation was suddenly broke off upon France stipulating to retain the Lordship paramount or suzeraineté over Hayti. The Haytians rejected the proposal with scorn, and declared the republic free, and their resolution to preserve it so without further intercourse with France. At last, in 1825, the king of France by a royal ordonance, acknowledged the full and entire independence of Hayti.

Physical Features.] The direction of the hills of St Domingo is similar to that on the other islands, being parallel with the bearing of the island; their summits form a regular curve. There are two great chains of mountains which stretch from east to west, and from these numerous spurs branch out. The valleys are numerous, and in general extensive and fertile. The valley of La Vega Real is one of the largest and finest in the island; its length is computed at 80 leagues, and its average breadth at 10. To the east of the city of St Domingo are those immense plains which are called *Los Llanos;* they are perfectly level, with no trees upon them, except a few small shrubs on the margin of the springs or pools of water. These plains are said to occupy nearly a sixth part of the island, stretching almost to the east end, a distance of more than 90 miles, while their breadth is about 30 miles.

Rivers.] The rivers are numerous, though most of them ought to be rather regarded as torrents or brooks, which flow with great rapidity. There are 15 considerable streams, besides the following large and important rivers, namely, the *Ozama*, *Haina*, *Nigua*, *Villegas*, *Norsae*, *Ciau*, *Ocao*, and *Yane*, which take their rise in the mountains, and in general descend towards the west. There are a few which flow to the north and east; but these are not so large as the others.—The *Ozama* falls into the sea at the city of St Domingo, forming at its mouth the harbour of that city. In rainy seasons the current is very rapid and strong. The *Haina* flows about three leagues to the west of the city of St Domingo. It takes its rise at the foot of a beautiful ridge of mountains which bound the prospect from the city. These elevations are particularly remarkable from the sea opposite the harbour, and serve to close the view which intervenes by giving shade and limits to the perspective. It is frequented by water-fowl of several kinds, and abounds in excellent fish, particularly the snook and bastard mullet, the salmon and trout of the West Indies. Its margin was once studded with plantations of cocoa, sugar, indigo, cotton, &c.; but is now overgrown with wild shrubbery. The recent formation of an irregular bar of sand, not far from its entrance into the bay, rendering the navigation difficult, may account for this decay of cultivation on its banks.—*Nigua*, two leagues lower, draws its source near the preceding river, rolling over a beautiful bed of sand and pebbles, for a distance of nine leagues, in such a serpentine form, that within a distance of two miles, it is necessary to cross it five times. This river in its progress to the sea receives the united waters of smaller streams, and forms a great convenience for floating wood on its surface; it is fordable, unless when swelled by great rains, but in the dryest months the stream is very low.—The *Yane* flows through an extent of nearly 200 miles, and waters the rich plains of La Vega Real, Cotuy, &c.: it receives upwards of 40 smaller streams, and falls into the great bay of Samana.

Lakes.] There is a singular lake situated near the south part of the old French line of demarcation, on a little island, near the town of St John's. This sheet of water is known by the name of *La Laguno de Henriquillo*, or 'the lake of Little Henry,' from its being the seat to which the Indian chief of that name retired, after his defeat, and where he was captured by the Spaniards. It is upwards of 20 leagues in circumference; and though its nearest margin is placed 8 leagues from the sea, in which distance several considerable mountains intervene, the same flux and reflux of the tide takes place at the same time, as in the neighbouring ocean. The water is salt, and of the same specific gravity and appearance as that of sea-water. Sharks, seal, porpoise, and other sea-fish, are found in it. In the centre is a small island nearly two leagues long and one wide, containing springs of fresh water; and abounding in wild goats and game.

Bays and Harbours.] St Domingo has to boast of many excellent bays and harbours. The bay of *Samana*, in point of situation, extent, and communication with the interior of the country, is one of the most important in the West Indies. From a sugar-loaf hill, we have Cape Raphael, which forms the south side of this bay: to the opposite side is a distance of 18 miles, protected by rocks and sands, yet leaving a safe and deep channel: it is 60 miles long, and bounded on every side by a fertile country. *Neyba Bay*, into which a river of the same name enters, might be made larger and more commodious for shipping, if the various channels through which the river flows into it were formed into one: at present the pilots are often at a loss, from the number and frequent shiftings of the channels, for a proper navigation. The entrance of *Ocao Bay*, so called from a river of the same name, is two leagues across, and it increases gradually to nearly six; its shores are clear, and their elevation makes it a good place for shelter. On the east side of the bay is the harbour of *Caldera*. Here, ships which draw too much water to cross the bar, lie to complete their loading, moored to the trees. A great part of the coast of the island is rocky and dangerous, affording insecure anchorage or sheltering from storms.

Climate, &c.] From the situation of this island, it might be supposed to suffer from intense heat, during at least one-half of the year; but this is provided against by an easterly wind which blows with great regularity at certain seasons. This wind is not much felt, till about nine o'clock in the morning; it increases as the sun advances to his meridian, and decreases as he descends again to the horizon. In the plains of what formed the Spanish part, the heat is nearly uniform, sometimes rising as high as 90°: but as the mountains are approached, it gradually subsides. It rarely rises above 72° or 77° on them; and during the night, particularly, on some of the highest mountains, as those of Cibas, Lille, and Holte—the former of which is estimated at about 6,000 feet above the level of the sea—the temperature is disagreeably cool. In the central part of the island the plains of Banica are remarkable for their high temperature when compared with those of the more elevated and of course colder, districts of St John's and St Thomas, by which they are bounded; while the valley of Costanza, divided from St John's by a ridge of mountains, and closed in like an amphitheatre by surrounding hills, has a climate so cold and pure, that meat may be there kept for five or six days without being tainted. The seasons are divided into wet and dry; the heaviest rains fall in May and June. Hurricanes are seldom experienced; earthquakes are not now nearly so frequent as formerly. In the southern part of the island, violent gales of wind are not uncommon, but they are not attended with such dreadful consequences as the hurricanes in the windward islands. The soil in some places, after digging a few feet, is soft gravel, or sand-stones; in others it consists of clay, potter's earth, or a bed of sand.

Minerals.] This island is pre-eminently distinguished for its mines of gold and silver, copper and iron. About 8 leagues from the city of St Domingo, the mines known by the name of *Buena Ventura* were situated; from one of these mines, called *Cibao,* a piece of gold, weighing 200 ounces was once obtained. These mines are not now wrought; but the neighbouring inhabitants, after heavy rains, often gather among the sand of the rivulet Santa Rosa, small particles of gold, sometimes to the amount of an ounce a day. In the centre of the island, are also remains and vestiges of extensive gold-mines; these were the first that were wrought, and at one time were very productive. In the southern part of the island, are the mines of *Guaba, Rubia,* and *Baoruco;* gold is still gathered here in small quantities by the Maroons who inhabit this part of the island. On the borders of the small streams called Obispo and Peidras, there is a rich silver-mine; and not far from the capital, an excellent vein of this metal has been wrought. On a ridge called Maymon, near the centre of the island, there is a copper-mine; and within a very few leagues of the city of St Domingo, there are two valuable mines of iron. In the year 1645 quicksilver was found at the source of the river Yacque; and it has also been met with near the gold-mines of Cibao. Emeralds have been dug out not far from the copper-mine already mentioned; the loadstone is found in several places, and also jasper, porphyry, alabaster, and agates. Besides these, Walton mentions a mine of antimony which yields pieces of six and eight pounds, and what he calls mineral copperas. The mineral treasures of this island are, however, very imperfectly known, though from the accounts given by Herrera, and other Spanish authors, they seem highly deserving scientific and careful investigation. According to Herrera, the mines of La Vega and Buena Ventura alone, formerly exported upwards of 460,000 marks of gold. No mineral waters have been discovered in St Domingo, except those which suddenly burst forth from the mountains of Viagama, in consequence of the dreadful earthquakes which were felt in this part of the island, in the year 1751. In many places there are natural salt-pits along the coast, and in one of the mountains that enclose the lake Xaragua, there is a salt-mine. The Spanish historian Oviedo, states, that the whole mountain is in fact a rock of salt.

Vegetable Productions.] Perhaps no country could present an herbal more extensive and interesting than the varied vegetable kingdom of this island. The mahogany-tree, in which the country abounds, is at present a staple export. The *koa,* though of the same species as that of Europe, differs considerably in its appearance; it is used for buildings, and frequently furnishes beams from 60 to 70 feet long. The *hacana* resembles the oak, but is preferable in many cases, from being less corruptible. The machineel-tree affords a wood of a beautiful appearance for furniture, shaded like marble with green and yellow veins; but in consequence of its containing an acrid poisonous juice, with which the Indians used to poison their arrows, it is dangerous to work it. Two kinds of *lignum-vitæ* grow along the coast. The *queebra hacha*, (literally 'break axe,') or iron-wood, of a similar species, has the peculiarity of petrifying and becoming nearly as hard as a stone when stuck in the damp ground. The Spaniards used to build their vessels of a tree called the *eapa*, which, however, seems better suited for sheathing ships. The pine is abundant, but in consequence of its being very liable to be attacked by the wood-ant, it is seldom employed. Brazil wood is found on many parts of the coast, but hitherto it has not been much attended to. The satin-wood of St Domingo is heavier than that which grows in the East Indies; it takes a much better polish, and does not require to be varnished. But of all the vegetable productions of the island, the *seiba*, or cotton-tree, is the largest. It receives its name from a down which it affords, resembling cotton, but of a shorter staple, not unlike the down of the black poplar. The *jagua* produces a fruit much esteemed by the natives. Green and black ebony is met with in great abundance; also the *granadillo*, with several other woods of a similar species, and equally suited to turnery or staining. Various species of the palm-tree ornament the woods, and serve many useful purposes. The palmetto, or mountain-cabbage, proffers a valuable white milky juice much relished by Europeans. This tree frequently rises to the height of 70 feet, and is cut down for the sake of the production with which it is crowned, or the wild honey with which its sides often teem. The dwarf palmetto produces a grain, or berry, from which a juice is squeezed called by the natives *alegra cagote*, or 'enlivener of the brain,' from the property which it is said to possess of raising depressed spirits, when applied to the temples and back of the neck. The sugar-cane, cotton, and coffee-plant, flourish remarkably well in Hayti. The sugar would be of an excellent quality were it properly and carefully manufactured. The quality of the coffee is remarkably good. Cotton, of an excellent quality, grows naturally, even in the stony soil, and in the crevices of the rocks. Indigo seems at one time to have been more extensively cultivated than it at present is. The kernel of the cocoa-nut of St Domingo is more acidulous than that of Venezuela and the Caraccas; and the chocolate made from it is esteemed to possess a higher flavour. The plantain, banana, calabash, and cashew-nut, are abundant. Vanilla is indigenous in the woods; but though a useful and valuable plant, no attention has been paid to its culture or commerce in the island. The tobacco of St Domingo, according to Valverde, has a larger leaf than on any part of the continent of America; and in quality is equal to that of Cuba or the Havannah. Two crops of rice are annually gathered, but this crop is not so abundant in St Domingo as in Puerto Rico and some of the other islands. The natives manufacture hammocks of the fibres of the leaf of the *peta*, a species of aloes, which grows in every part of the island. The flora of this island is extensive, and distinguished by brilliancy of colours and fragrance of smell.

Animals.] On the original discovery of this island, four species of quadrupeds were found upon it, which the Indians called *hutia*, *quemi*, *mohuy*, and *cory*. Like the race of natives, however, they have become extinct, with the single exception of the hutia, or agouti cat, which is yet to be met with. This animal resembles the squirrel and rabbit. All the other quadrupeds have been introduced by Europeans, and they have increased greatly, especially cattle, hogs, sheep, goats, horses, mules, and asses. Some graziers in the district of Seibo, keep upwards of 12,000 head of cattle, which they sell in herds at six and eight dollars per head. Poultry here is good, and much cheaper than in the other parts of the West Indies. Game is extremely plentiful, and the island abounds with birds of the most beautiful plumage. Unlike the main, however, and the neighbouring islands, no singing birds are found here, excepting the Jamaica nightingale, or mocking-bird, and the banana-bird. The land-crab is thought a great delicacy by the Creoles; it abounds in all parts of the island, but particularly so near the city of St Domingo.[1] Centipedes are large, dangerous, and numerous; the scorpion is rarely found, but the venomous crab-spider is sometimes met with. The wood-ant is one of the most destructive insects in St Domingo. It attacks all kinds of wood, especially the wood of the pine; if packing cases are made of it, it will perforate through every fold of the goods which they contain, till it works a passage out at the other side. The cattle are often attacked by a large fly something similar to the cantharides of the Mediterranean. The cochineal is found indigenous in the district of St John's, Banis, and along Ocao river. The colouring of this insect, derived from its food, is the same as in New Spain. The *nigua*, or tick, is by far the most disagreeable insect in the West Indies. It makes its attack generally on the foot; and so great is the difficulty of extracting it, that it is often necessary to cut out the part, and totally extirpate the diseased portion it has formed. The *cocullo* is a kind of glow-fly that emits from the belly and eyes a luminous matter. On certain festival days in the month of June, they are collected and tied in great quantities all over the outer garments of the young people; who gallop through the streets on horses similarly ornamented, producing in a dark evening the effect of a large moving body of light.

Population.] The original native population of Hayti, previously to the subjugation by the Spaniards, was estimated by the bishop Las Casas at 3,000,000. This was probably an exaggeration; but, though the numbers may have been much less, the falling-off unquestionably was great after the conquest. In the 17th century, the island was divided, as we have seen, between the Spaniards and French; and the former, in 1798, were estimated by the ecclesiastical authorities, from the confession-tickets, at 110,000 free persons, and 15,000 slaves. The French population amounted in 1726, to 100,000 Negroes, and 30,000 whites. In 1779, according to Mr Necker, the numbers were, 249,098 slaves, 7,055 free blacks, and 32,650 whites: in all 288,803 persons. They were stated in the national assembly, by Mr Prieur, in round numbers, at 500,000 blacks, and 40,000 whites; adding these numbers to the population of the Spanish part, the whole population at the commencement of the French revolution could not exceed 665,000 souls. From that period till 1809, when the

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[1] The Spaniards have a tradition, that the city of St Domingo was saved in 1692 from the English, under admiral Penn, by means of these animals. According to them, the European forces landed in the night, expecting to attack the Spanish camp unprepared; the advanced line from the first boats had already formed, and were proceeding to take post behind a copse, when they heard the loud noise of horses' feet, and as they supposed of the Spanish lancemen; thinking that they were discovered, they embarked precipitately, but the alarm was occasioned by these land-crabs clattering over the dry leaves. In commemoration of this defeat, the inhabitants for a long time celebrated *La Fuesta de los Cangrejos*, or 'the feast of crabs.'

French troops were finally expelled, the country was laid waste by a succession of sanguinary wars, notwithstanding which the population of the island has increased in an astonishing degree: for by the census taken in 1824, the actual population is given at 935,335 souls, and this population has received a large accession of free blacks and men of colour from the United States. The population now exceeds 1,000,000.

Moral and Political Condition.] The following is part of a report by a committee of the 'American convention for the abolition of slavery,' to which had been delegated the examination of the moral and political condition of the people of Hayti. "From the representations of those who have resided in the island, and from the public documents printed there, it appears, that the Haytians have made a progress in civilization and intellectual improvement, nearly, if not altogether, unparalleled in the history of nations. Public free schools are established to a greater extent, in proportion to the wants of the population, than is known in European countries, and the pupils exhibit a very gratifying proficiency in their studies. The government is efficient, and apparently stable. It is republican in its form; the laws being passed by a legislative body chosen by the people, yet it is said that the control of the president is predominant, the military force being at his disposal. He does not appear, however, to abuse his authority; and it is evident that a continuance of the system of education, and of the republican form of government, will, at no distant period, place the power in reality in the hands of the people and their representatives. Until knowledge be generally diffused, the chief influence and authority must necessarily be exercised by a few enterprising and extraordinary characters, who have outstripped the mass in the race of improvement. The great body of men, in all countries, are hired labourers, who subsist on their wages, and the quantity of the means of subsistence given them for their services, is perhaps the best criterion which can be obtained of the degree of happiness they enjoy, or of positive oppression they suffer. Trying the condition of the Haytians by this test, it would appear decidedly better than that of the people of any European nation, and the citizens of the United States would be able to boast of no striking pre-eminence. The wages of labourers in the Haytian sea-ports is one dollar per day; and the price of provisions, on the average, is nearly the same as in our own ports. The wants of the people in clothing, shelter, and furniture, are far less than those of the inhabitants of our zone; so that, on the whole, the means of comfortable subsistence are probably as abundantly possessed by the labouring Haytians as by the labourers of any other country on earth. This abundance is a positive proof of the mildness of the government; a proof that it does not grind the people to dust by the taxing and monopolizing hand of oppression." It is fair to state, along with this flattering account of the social condition of the Haytians, that some documents have recently been given to the world, concerning the labouring population of Hayti, which would lead us to suspect that the picture drawn by the members of the American committee was rather high-coloured. The substance of these documents may be briefly stated as follows: the president of Hayti complains of the insubordination and vagabondage of the negroes employed (or who should be employed) in agriculture: and a law passed in pursuance of his proclamation directs that all persons not having property on which to support themselves, and not having made a contract to serve some master, shall be considered vagabonds, and shall be set to hard labour till they consent to serve some master. Disobedience or insult on the part of servants is punished by imprisonment. Measures are taken to prevent loitering on the part of the agricultural labourers, and heavy fines are imposed on those who harbour them in towns. The time of labour is the whole day; but Saturdays and Sundays and holidays—which under the Catholic church are numerous—are at the disposal of the labourer. The labourer has thus two days' rest in the week, and often more. The attempts which have been made by the abettors of Negro slavery to draw an argument from this measure of Boyer's on behalf of their own system of cruelty and oppression, have been so ably answered by the editor of the *London Globe*, that we cannot deny ourselves the pleasure and our readers the satisfaction of inserting his remarks entire. "We readily admit," says that journalist, "the propriety of giving circulation to these documents, and to all other facts which exhibit the results, whether favourable or unfavourable, of attempts to establish a system of free labour among negroes. In our efforts for the improvement of the negroes, or any class of men, we cannot improve our chances of success by working in the dark. We are doubtful whether the *Code Rurale* is to be considered as a law carrying into effect Boyer's proclamation, or whether the latter refers (we suspect it does) to the Spanish part of the island. They do not, however, materially differ. It is necessary to bear in mind, that the black and mulatto planters of Hayti have precisely the same interests as the white planters of Jamaica. They are the proprietors of sugar and coffee grounds, and we have no doubt they would much rather have gangs of slaves than make their terms with free labourers. If the constitution of Hayti throw the power into the hands of the Haytian proprietors, it is not to be wondered that they should pass laws, the object of which is to compel men to labour on their farms. If the constitution really throw the power into the hands of the mass of the people, the measures of compulsion which they have agreed to can scarcely tell against themselves. Our readers who are acquainted with the history of the English law, will be struck with the resemblance between the Haytian regulations and those which formerly prevailed in this country. The statute of labourers of the 25th Edward III., and other subsequent laws, complain of the vagabondage of the people, and contain enactments, the object of which is to compel agricultural labourers to work at the wages which their masters may choose to give them, and which punished, much more severely than those of Hayti, the refractory labourers. We are not accustomed, however, to find in these statutes proofs that white men will not work, except in a state of slavery; we rather look to them as examples of the disposition a body of ruling land owners have to force people to work, rather than to give them such a reward as will entice them to work. The circumstances which then existed in England now exist in Hayti, in addition to some others. There is a scanty population on a very fertile soil, and the first impulse of people under such circumstances, is not to toil slavishly, but to live at ease with little labour. If the Assembly of Jamaica were to bring forward the documents in support of the proposition that, in a tropical country, fertile, and thinly peopled, the free labour of blacks would be obtained with difficulty, and at a great expense, by the capitalists—at a much greater expense than the labour of slaves, we are inclined to believe that their proposition is correct, and that the documents are relevant. Major Moody, who has thrown so much light on the question of labour in tropical climates, and who, indeed, may be said to be the only writer who has treated the subject in a clear and scientific manner, has explained the circumstances which render it difficult to obtain free labour. The physical wants of men are fewer than in our regions; the means of supplying the wants which exist more easy; the pain of labour in the sun, and the pleasure of rest in the shade, greater. Whites are not able to work in the sun, and under the circumstances we have described, the difficulties are great of presenting to the blacks inducements to do so. It certainly would be possible to conceive, even under these circumstances, such a density of population that the people would work for the lowest wages, and would leave enormous rents to the proprietors. But this state of population no where exists in the West Indies. These circumstances should certainly be borne in mind in the pursuit of the plans for the amelioration of the condition of the slaves, but they are by no means sufficient to show that these plans should be abandoned. The very same facts which prove that free labour is difficult to obtain, prove that slavery is a great wrong. We force them to labour, because we could not buy their free labour on terms advantageous to ourselves. If in such circumstances we continue to authorize this compulsion, we are the more bound to protect the objects of it against caprice, and any infliction not absolutely necessary to the attainment of the object, and that every practicable compensation should be made them, by other advantages, for the natural enjoyments which are denied them."

Appearance and Dress.] The dress of the lower orders in Hayti is plain, but neat and clean. The men wear a short blue jacket of woollen cloth, with waistcoat and trowsers of white chintz. The women's dress consists of a cotton chemise and petticoat, with a handkerchief tied in the form of a turban round the head. The country people who frequent the markets in the towns have a healthy cleanly appearance. They are all, to the very lowest, clothed, and their general aspect indicates contentment and happiness. The Haytian females have the usual failing of their sex of being inordinately fond of dress. The young women are frequently agreeable and even handsome in person.

Constitution.] By the constitution of Hayti, of the 27th December 1806, revised in 1816, the unity and indivisibility of the republic are declared; no person who is not of African or Indian descent, with a few special exceptions, is eligible to the right of citizenship, or allowed to hold land in the island; slavery is for ever abolished; the government is declared to be elective; and the Roman Catholic religion is established as the religion of the state, but with toleration of others.

Government.] The legislative power is vested in a chamber of representatives, chosen by the commoners, and amounting to 72 members in 1827, and a senate of 24 members. The former hold their seats for 5 years; the latter for 9. No representative can hold any office under government; and any citizen convicted of having sold his vote is excluded from all public functions for 20 years. The executive power is vested in the first magistrate or president of the state, who is chosen for life by the senate. The president may nominate his successor, but the senate may receive or reject him. A high national court nominated by the senate, judges in cases of accusation preferred against any member of the legislative bodies, or against the president himself and the other public functionaries. The municipal administration is formed on the model of that of France.

Military Force.] The armed force of Hayti, the magnitude of which is little known, appears to be such as to put its independence out of any danger from foreign attack. The whole male population is, in fact, armed, and is divided in the official returns into the following classes:

Regulars, (including we suppose, regularly trained militia,)	83,247
National Guard, comprising all men capable of bearing arms,	192,654
Gens d'armes, the military employed in the police and maintenance of internal tranquillity,	22,469
	298,361

Commerce.] The commerce and manufacturing industry of Hayti have been subjected to many alternations. In 1789 this island exported goods to France to the value of 135,620,000 francs, and imported from that country to the value of 54,578,000 francs. In addition to these sums, its authorised exports to other countries amounted in value to 3,707,000 francs, and its imports from these countries to 7,000,000 francs. In 1814, English merchants imported goods to the value of 28,800,000 francs into this island. Since this period its commerce has been gradually increasing. In 1822, it exported to foreign parts 652,541 pounds of sugar, 891,950 of cotton, and 35,117,834 of coffee. This was besides the exports of cocoa and woods; and over and above all the home consumption. The whole exports of the island for that year were of the value of above 9,000,000 of dollars, or above £2,000,000; the value of the imports was nearly £3,000,000; and the tonnage employed in the export and import trade together was about 200,000, in 1835 vessels. The duties upon exports and imports during the same year exceeded £678,000. In 1824, Hayti exported 725,000 pounds of sugar, 992,950 of cotton, and 37,700,000 of coffee; besides a considerable quantity of cocoa, dye-woods, cabinet-woods, rum, and treacle. A good many horses, mules, and horned cattle are exported from the eastern coast. The principal entrepots of commerce are Cape Hayti, St Nicholas, Port Republicain, or Port-au-Prince, Leogane, Les Gonaives, and Les Cayes.

Monies.] Accounts are kept in dollars and cents as in the United States. The dollar is worth 5 franks 56 centimes, French money, and contains 11 *escalins*. The doubloons are valued at 16 dollars, the *joes* at 8.

St Domingo. The town of St Domingo may be considered the first or oldest city of the western world. It lies in 18° 28′ N. lat., and 69° 50′ W. long., on the west margin of the river Ozama, whose waters on that side, and the sea to the south, lave its ramparts. It was founded by Columbus in 1496, and was originally built on the east side of the river; but a great part of it having been destroyed by a violent hurricane in 1504, and this calamity being followed by a pestilential visitation of destructive ants in 1594, it was removed to its present site. The port, though only fit for small vessels, is convenient and safe, and contains a natural basin, in which a great number of vessels may careen. The form of the city is that of a trapezium, measuring about 540 fathoms on the east side, along the river nearly 500 fathoms on the south side, and about 1,800 fathoms in circumference. The streets are straight and broad, crossing one another at right angles. The whole city is surrounded by a rampart 8 feet in diameter, and about 10 feet high; the fortifications, however, are not strong, and it is completely commanded by some adjoining heights. The appearance of the town is represented as picturesque, but rather gloomy, by reason of the massive piles of building, unadorned with steeples; but the gardens interspersed among the houses relieve this effect, and give it a romantic air. The most ancient houses are built of a species of marble found in the neighbourhood; but such as have been erected within these 20 years are of wood, covered with the leaves of the palm-trees. The roofs of all the houses are flat; in the middle there is a yard, or *patio*, with surrounding galleries and balconies to the street. The lower windows are all iron-grated, many of the doors fold, and give entrance to a large vestibule, or passage, where the porter sits. The water for drinking is collected into cisterns, by spouts from the flat roofs. The cathedral church, though small, is a fine piece of architecture. In this church the bones of Columbus were deposited till the year 1795, when they were removed to the Havannah. Besides the cathedral, the other public buildings are the barracks, capable of holding 2000 men, the watch tower, originally erected by Bartholomew Columbus, and the arsenal. In 1737, a census was taken, by which it appeared that the total population did not exceed 6000. By the last census it amounted to 20,000.

Santiago de los Cavalleros.] This place, situated in the interior, prior to the inroads of Dessalines, in point of riches, appearance, and population, rivalled the capital. It stands at 60 leagues, or four days' journey from it, and 45 leagues from Cape Francois. It is situated on a beautiful plain, bounded on one side by an elevation called Cuesta Blanca, and on the other by the Yacque river. Walton says, this city contains about 12,000 persons.

Cape Henry.] The town of *Cape Francois*, now *Cape Henry*, under the French the seat of government, and latterly the capital of the late king Christophe, arose to opulence chiefly from the commodiousness of its harbour, and the extreme fertility of the plains adjoining it to the east. The ravages of war have despoiled its beauty, but under the fostering care, and spirited improvements of the late king Christophe, it recovered much of its pristine grandeur.

Port-au-Prince.] Port-au-Prince, except in time of war, when the governor-general was directed to remove to Cape Francois, was considered as the metropolis of the colony. It still retains metropolitan honours as the seat of government; the late president of the western province, Petion, having conferred on this city many privileges and immunities. In 1790 it consisted of about 600 houses, and contained 2,754 white inhabitants, 4000 free persons of colour, and 8000 slaves. The situation is low and marshy, and the climate in consequence very unhealthy. It is surrounded by hills, which command both the town and the harbour; but both the hills and the valleys are abundantly fertile.

CHAP. IV.—DUTCH WEST INDIES.

Curacoa.] CURAÇOA is situated in the Caribbean sea, to the N. of New Grenada and Venezuela, from the coast of which province it is not more than 20 leagues distant. This island lies between 12° and 13° N. lat., and 60° and 70° W. long.; and is 30 miles long and 11 broad. It produces sugar and tobacco; but in general its soil is not naturally fertile, and is dependent on the rains for a supply of water. Curacoa had been held by the Spaniards since 1527, when it was taken by the Dutch in 1632. What principally induced the Dutch to undertake this conquest, was the facilities which it afforded for the prosecution of an illicit trade with the Spanish main; and that they afterwards pursued with astonishing success. The trade of Curaçoa, even in times of peace, was said to be worth no less than £500,000 annually; but in time of war the profit was still greater, for then it became the common emporium of the West Indies, affording a retreat for ships of all nations, and at the same time refusing to none of them arms and ammunition for their mutual destruction. Curacoa was accustomed, especially in times of war between Great Britain and France, to supply all the southern coast of St Domingo with provisions; and at the same time took off the produce of that island, which, even while in possession of the French, was considerable. Every commodity, without exception, landed at Curacoa, while it remained in possession of the Dutch, paid one per cent. port-duty.. Dutch goods were never taxed higher; but those shipped from the other European ports paid nine per cent. more. Foreign coffee was subjected to the same tax, with a view of promoting the sale of that of Surinam. Every other American product was subject only to the payment of three per cent. The Dutch company trading to the Indies never itself engaged in any commerce at Curacoa. Curacoa has an excellent harbour. Indeed it has two considerable ports, one on the south part of the island, and at its western extremity, called *St Barbra*,—the other, and the principal one, 3 leagues to the S. E. of its most northern boundary. To this large and excellent harbour the access is, indeed, somewhat difficult; but when once it has been entered, its spacious basin affords every convenience and security; it is capable of containing, and protecting against all winds, as well as against any hostile force, upwards of 300 ships of the largest size. In time of war, it is well adapted to serve as a rendezvous for merchant-vessels bound to Europe, which, from its situation to windward, may always take refuge in it; and it is an excellent station for provisions. The principal towns of Curacoa are one of the same name, and *Williamstadt*. The city of *Curacoa* is well-situated, and its buildings are large, convenient, and magnificent; it is full of storehouses and shops, well-provided with every species of merchandise, and all kinds of manufactures. In Williamstadt, which is considered to be the chief town of the island, on the opposite side of the harbour, there are few white inhabitants. The total population of the island is estimated, by Boyer Peyreleau, at 36,000, of whom 4000 are whites, and three-fourths of these latter Jews. The native population is become extinct, with the exception of three or four aged people at Curacoa, and a few persons residing at Bonaire. Curacoa has been considerably exempted from hostile attacks. In 1673, the French having corrupted the commandant of the island, landed on it to the amount of 6000 men; but the treachery having been discovered, and the traitors punished, the invading troops were obliged to re-embark without having met with the success that they expected. About five years afterwards, Louis XIV. sent out D'Estrees with 18 ships of war, and 12 buccaneering vessels, against the island; but, from the rashness and obstinacy of the admiral, the vessels, when not far from their place of destination, were run aground off Davis island, and the shattered remains of the fleet returned in very bad condition to Brest, without having effected any thing. For a long time after that period, neither Curacoa, nor the little islands of *Aruba* and *Bonaire*, dependent on it, suffered by any disturbance; but it was captured by the British 1798, and again restored to the Dutch at the peace of Amiens. It was again captured in 1806, by captain Brisbane, and again restored at the general peace of 1814. The official value of the imports and exports while subject to Britain was, in 1809, imports, £241,675; exports, £316,696: in 1810, £236,181 imports; and exports, £263,996. In the same year the acres in cultivation were 30,000; and the principal articles imported from it were coffee, sugar, rum, and cotton-wool.

St Eustatius.] The island of St Eustatius would be inconsiderable in any hands but those of the Dutch. It is situated in 70° 29′ N. lat., and 60° 10′ W. long. It consists of one mountain, of which the circumference is 29 miles. This mountain is now cultivated to the summit, but has the appearance of having formerly been a volcano. In its top is a hollow, which may probably have been the crater, but it is now covered with wood, and is a haunt for wild beasts. The soil is indifferent; but, by the industry of the inhabitants, it is made to yield considerable crops of sugar and tobacco. The number of inhabitants has been estimated at 5,000 whites, and 15,000 negroes. The prosperity of this island has been owing chiefly to its constant neutrality, and the contraband commerce which it carries on with America. The first Dutch colony settled here, which consisted of 1,600 people, was expelled by English adventurers from Jamaica, in 1635; and these were in their turn obliged to yield to the French and the Dutch, who joined in driving them from the island. The French kept it for some time, but it was restored to the Dutch by the peace of Breda. Thereafter the French expelled the Dutch, and were themselves expelled by the British. The island was once more restored to the Dutch by the peace of Ryswick. In 1781, St Eustatius was taken by admiral Rodney, who appeared before it with a powerful armament, before the inhabitants had learnt that the British had declared war against them. The booty which fell into the hands of the captors on this occasion was estimated at £4,000,000. The French, in 1781, retook the island; it was restored to the Dutch by treaty in 1783; and in 1795, the French once more took possession of it, but it reverted to its former possessors by the treaty of alliance concluded in that same year. It was afterwards in possession of the British, and again restored to the Dutch by the peace of 1814.

CHAP. II.—FRENCH WEST INDIES.

Guadaloupe.] The island of Guadaloupe lies between Antigua and Martinique; its length is between 60 and 70 miles, and its greatest breadth 25. The middle of the island is situated in about 16° 20′ N. lat., and 62° W. long. It was discovered in 1493; but a party of French adventurers were the first who took possession of it; they arrived from Dieppe, in June, 1635, under two adventurous leaders. For the first years of its occupation by the French, Guadaloupe made little progress; but in the course of the ensuing fifty-five, its improvement was as rapid as it had formerly been slow. In April, 1759, the island was conquered by the British; but in July, 1763, it was restored to its former owners in a highly-improved condition. The French government now began to see the value of this settlement, and an independent government was given to it. It was again taken by the British, in April, 1794; but was retaken by the French, under Victor Hughes, in February, 1795. Early in 1810, an expedition, the naval part of which was commanded by Sir A. Cochrane, and the military force by Sir G. Beckwith, brought Guadaloupe again under the power of the British crown. In this state it continued till 1813, when, in a treaty between his Britannic majesty and the king of Sweden, it was agreed that this valuable colony should be ceded to the latter, in considsration of an engagement on his part, to furnish a force of 30,000 men in aid of the allied powers against France. Swedish commissioners were accordingly sent to make arrangements for taking possession of the island; but, in consequence of certain political causes, not yet fully explained, it was restored to its old possessors the French, at the restoration of Louis XVIII., in terms of the general treaty of peace, signed May 30, 1814.

This island has somewhat of the form of a crescent, and may be considered as rather consisting of two islands than of one; for it is divided into two parts by a narrow strait called Salt River, navigable only by canoes. For a short distance on each side of this strait, the breadth of the island is not more than 4 miles. By this remarkable channel, the sea on the N.W. communicates with the sea on the S.E. Its breadth varies from about 30 to 80 yards; and it is navigable for vessels not exceeding 50 tons burden. The N.W. and most fertile part of the island is divided into *Basse-terre* and *Cabas-terre;* the eastern and more sandy division of it is named *Grande-terre.* That portion of the island from which the whole takes its name, is, towards the middle, full of high and rugged rocks, where the climate is so cold, and the soil so barren, that little vegetation is to be seen. Over the summit of these rocks, the mountain called *La Soufrière*, or 'the brimstone mountain,' rises to the height of 1,557 metres above the level of the sea. This mountain continually sends forth, through various apertures, a thick black smoke, frequently mingled with sparks of fire. There are many marks of volcanoes in other parts of the island. Guadaloupe produces sugar, coffee, rum, ginger, cocoa, logwood, &c. and is well-stored with horned cattle, sheep, and horses. In 1789, the population of all descriptions was about 104,000. In 1812, it is stated as follows: 12,747 whites, 7,764 free persons of colour, and 94,328 slaves. In 1828 it amounted to 120,000 souls, of whom 101,000 are slaves. In 1811, the exports were 8,216,249 lbs. of brown and other sugars, 1,380,816 gallons of liquor, 1,601,688 lbs. coffee, 219,009 lbs. cotton, 963 lbs. cocoa. In 1824 France imported into this island goods to the value of 18,194,071 francs; while the exports amounted to 21,054,286 francs. The principal harbour is *Point-à-Pitre*. The island is defended by Fort Saint Charles and Fort Louis, and a garrison of about 2,000 men, who also garrison the little dependancy of *Marie Galande*, *Desirade*, the *Saintes*, and the French fort of Saint Martin, the other half of which belongs to the Dutch. Guadaloupe is governed by a governor and a council; and is garrisoned by 1,600 men.

Martinico.] The island of Martinico, or *Martinique*, is situated in 14° 30′ N. lat. and 61° W. long. Its length is 48 miles, and its circumference 135 miles. The island is hilly. The soil is watered by many streams, and is fertile, but the atmosphere is unhealthy.

One hundred men from St Christopher, under the guidance of M. Desnambeu, in 1635, laid the foundation of the French colony in this island, and tobacco and cotton were the first objects of cultivation. In 1650, sugar began to be made; and, in 1660, cocoa-trees were planted. In 1684, trees of this kind had become numerous; but, in 1718, during a season uncommonly rigorous, the whole perished. The inhabitants then had recourse to the culture of coffee, of which they reared great quantities. Martinico, after the peace of Utrecht, became the centre of the French West Indian commerce; the productions of the neighbouring islands were carried into its ports, and there exchanged for such European commodities as were in demand. This state of prosperity was, in 1744, interrupted by a war, and it had not recovered from the shock then received, when, in 1761, it was taken by the British, but restored in 1763 In 1794, Sir John Jervis and Sir Charles Grey made a conquest of this part of the French possessions. It was restored to the French by the peace of Amiens; again captured by the British in 1809; and restored to the French by the peace of Paris, 1814.

In 1811, the population was as follows: 9,206 whites, 8,630 free persons of colour, 78,577 slaves. In 1828, it amounted to 101,865, of whom 81,142 were slaves. In 1810, the imports were to the value of £635,664; the exports, £791,773. In 1824, the total value of goods imported from France amounted to 16,601,867 francs; and of goods exported to France, 18,701,279. This colony is administered by a governor and privy council. Its garrison usually amounts to 1,200 men. Its revenue in 1823 was 3,984,892 francs, and its expenses 3,972,614 francs.

CHAP. VI.—DANISH AND SWEDISH WEST INDIES.

Santa Cruz.] The island of Santa Cruz, or *St Croix*, lies in 64° 48′ W. long. and 18° 48′ N. lat., and is about 20 leagues long and 4 broad. This island was first occupied in 1643 by the British and the Dutch; but jealousies having soon arisen among them, the Dutch were driven out, after a very obstinate engagement, in 1646. In 1650 the British were attacked and conquered by 1,200 Spaniards; but the Spaniards had not possessed the island a single year when they abandoned it to the French, who were sent out from St Christopher for the purpose of seizing it. In 1696, the colonists, to the amount of 147 men, and their wives and children, and 623 blacks, left the island, after demolishing its forts, and went to St Domingo. Santa Cruz continued without colonists, and without cultivation, till the year 1733, when it was sold by France, to a company of Danish merchants, for 1,611,000 rix-dollars. It continued in the possession of this company till 1801, when it was taken by the British, by whom it was restored to Denmark in the same year, soon after the battle of Copenhagen. The British again took it in 1807, and it was restored to Denmark in 1814. Santa Cruz is intersected by several small rivers, the soil is extremely fertile, but the climate is unhealthy at particular seasons of the year. About two-thirds of the land is fit for sugar, and the remainder is employed in a less lucrative manner. It produces about 35,000 hogsheads of sugar annually, besides tobacco and fruits; about 8,000 puncheons of rum, and 150 cwt. of cotton.

St Thomas.] This island lies in 18° 22′ N. lat. and 64° 50′ W. long., and is about 6 leagues in circumference. It would only be repeating what has been already said on the political history of Santa Cruz, to sketch that of St Thomas. The trade of this small island is considerable.

St John.] This island lies in 18° 10′ N. lat. and 65° 10′ W. long., about 2 leagues S. of St Thomas. This island is about the same size as the preceding, and has an excellent harbour and a neat town. It has suffered considerably by accidental fires.

St Bartholomew.] This Swedish possession lies in 17° 53′ N. lat. and 62° 54′ W. long., and is about 15 miles in circumference. Though the soil is rather poor, it produces cotton, the plantations of which have been very successful; also tobacco, cassava, and various kinds of wood. The principal exports are cotton, lignumvitæ, drugs, and ironwood; and it is supplied from America with flour, dried fish, and fresh and salt provisions. *Gustavia*, the only town in the colony, is inhabited by Swedes, British, French, Danes, and Americans. The only harbour in the island is *Le Carenage*, near Gustavia; the moorings are excellent, but it will only admit such vessels as draw below 9 feet of water. This island was first peopled by the French in 1648; it fell into the hands of the British in 1689, but was restored to France by the treaty of Ryswick. It was ceded in 1785 to the Swedes, and in 1801 taken by the British: it has since that time been restored to its present owners. Its population is about 3,000 souls.

AUSTRALIA.

GENERAL INTRODUCTION.

SOME Geographers have given the name of *Oceania* to the whole collection of those islands situated in the Pacific ocean, and between it and the Indian ocean, to the S.E. of Asia, and the W. of America, between the 34th parallel of northern and the 56th of southern latitude, and between 92° E. long. and 109° W. long. On inspection of the map, it will be found, that the vast assemblage of islands included within these limits may be divided into three groups: the 1*st*, and smallest, lying to the N.W. and comprehending those islands which are separated from the Indian continent by the straits of Malacca and the Chinese sea; the 2*d*, or southern division, sometimes called *Australasia*, or *Australia*, comprehending New Holland, Van Diemen's Land, New Guinea, the archipelago of New Britain, the Salomon islands, the archipelago of Queen Charlotte, the New Hebrides, the archipelago of New Caledonia, and New Zealand; and the 3*d*, or eastern division, sometimes called *Polynesia*, comprehending the Mindanco archipelago, the Society islands, the Harvey islands, the Friendly islands, the Carolines, the Pelew islands, the Mariannes and Sandwich islands, and several others. Walckenaer, and some other geographers, have laboured to establish such a relationship of physical features among these three groups as should entitle them to be classed together and treated as one great general division of the globe; but we have already—for reasons stated—described the first of these divisions under the general head of Asia; and the two other divisions we shall comprehend under the one general head of Australia.

The ancients do not appear to have been acquainted with any of these islands, unless Ptolemy's *Jaba-diu* was the modern Sumatra. The first accounts of the Asiatic archipelago were communicated by the Portuguese navigators, who penetrated into it in the early part of the 16th century, and discovered New Guinea in 1511. Magellan visited the Polynesian archipelago in 1521; and was succeeded by the navigator Mindanao in 1595. The Dutch discovered New Holland in 1605; and about the same time Quiros visited Polynesia and Eastern Australia. The Dutch navigators, Dirck-Hartighs, Nuyts, Schouten, Le Maire, and Tasman, successively prosecuted discoveries in this quarter; Dampier penetrated to the S.W.; and in the 18th century, Behring, Anson, Byron, Bougainville, Cook, Furneaux, Carteret, Marchand, Vancouver, La Perouse, and D'Entrecasteaux, distinguished themselves in this region. Their successors of the present century, Flinders, Baudin, Freycinet, Krusenstiern, Duperrey, D'Urville, Dillon, and King, have greatly enlarged our acquaintance with Australia.

General Physical Features.] "These regions," says Malte Brun, "present, in every quarter, scenes fitted to move the most frigid imagination. Many nations are here found in their earliest infancy. The amplest openings have been afforded for commercial activity. Numberless valuable productions have been already laid under contribution to our insatiable luxury. Here many natural treasures still remain concealed from scientific observation. How numerous are the gulfs, the ports, the straits, the lofty mountains, and the smiling plains! What magnificence, what solitude, what originality, and what variety! Here the zoophyte, the motionless inhabitant of the Pacific ocean, creates, by its accumulated exuviæ, a rampart of calcareous rock round the bank of sand on which it has grown. Grains of seed are brought to this spot by the birds, or wafted by the winds. The nascent verdure makes daily acquisitions of strength, till the young palm waves its verdant foliage over the surface of the waters. Each shallow is converted into an island, and each island improved into a garden. We behold at a distance a dark volcano ruling over a fertile country, generated by its own lava. A rapid and charming vegetation is displayed by the side of heaps of ashes and of scoriæ. Where the land is more extended, scenes more vast present themselves; sometimes the ambiguous basalt rises majestically in prismatic columns, or lines, to a distance too great for the eye to reach, the solitary shore with its picturesque ruins. Sometimes enormous primitive peaks boldly shoot up among the clouds; while, hung on their sides, the dark pine forest varies the immense void of the desert with its gloomy shade. In another place a low coast, covered with mangroves, sloping insensibly beneath the surface of the sea, stretches afar into dangerous shallows, where the noisy waves break into spray. To these sublime horrors a scene of enchantment suddenly succeeds. A new Cythera emerges from the bosom of the enchanted wave. An amphitheatre of verdure rises to our view. Tufted groves mingle their foliage with the brilliant enamel of the meadows. An eternal spring, combining with an eternal autumn, displays the opening blossom along with the ripened fruits. A perfume of exquisite sweetness embalms the atmosphere, which is continually refreshed by th wholesome breezes from the sea. A thousand rivulets trickle down the hills, and mingle their plaintive murmurs with the joyful melody of the birds animating the thickets. Under the shade of the cocoa, the smiling but modest hamlets present themselves, roofed with banana leaves, and decorated with garlands of jessamine. Here might mankind, if they could only throw off their vices, lead lives exempt from trouble and from want. Their bread grows on the trees which shade their lawns, the scenes of their festive amusement. Their light barks glide in peace on the lagoons, protected from the swelling surge by the coral reefs surrounding their whole island, at a short distance from the shore, and confining their domestic water in the stillness of a prison." Malte Brun talks of Oceanica presenting to us "magnificent fragments of a former world scattered over the mighty ocean;" and Walckenaer regards it as the debris of an immense portion of the habitable hemisphere which has been overwhelmed by the waves of the ocean. Following out this idea, both the geographers attempt to indicate the points of reunion still to be found amongst the surviving fragments of so mighty a convulsion as they suppose to have here taken place. "Nature," says Malte Brun, "has given this part of the world a very prominent and characteristic physiognomy. No portion of the surface of the globe has more numerous inequalities, and in none, except America, have the chains of mountains so striking a polarity,—so marked a direction from N. to S.; at the same time, these chains generally present, about the middle, a great bend from W. to E. The best marked among them is that formed by the Marian islands, the Carolines, and the Mulgraves, which are probably connected by means of St Augustine's islands and some other links, with the archipelago of the Navigators, or that the Friendly islands. Their general direction is from N. W. to S. E. Even among the Carolines, where the Polynesian chain turns due E., the particular links lie N. and S. Another great chain makes its appearance in the isle of Luzon, the largest of the Philippines, which passes by the island Palawan into that of Borneo. The direction of that well-known branch is from N. E. to S. W. It bounds on one side the basin of the Chinese sea. More to the east that chain is converted into a number of minor ones, united in groups varying in their structure. The chains of Celebes and Gilolo are well-marked; but a larger and higher one crosses New Guinea; where some of its elevations are covered with perpetual snow. In New South Wales, the long line of the Blue mountains extends to Van Diemen's Land, terminating in South Cape and Cape Pillar, immense masses of basalt, which give a magnificent idea of this Cordillera of central Oceanica. The fourth great chain takes its commencement at the Andaman and Nicobar islands; then gives rise to the islands of Sumatra, Java, Timor, and others. It runs in the form of a bow from N. W. to S. E., then due E., but it probably passes by Cape Diemen, (the Cape Leoben of the French maps,) where it can have no other direction than N. and S. All the archipelagos of eastern Oceanica lie N. and S. New Zealand, New Caledonia, and the New Hebrides, form well-marked chains. That of Solomon's island, bending from the S. E. to the N. W., is continued in New Ireland and New Hanover. It often happens that the small chains are individually terminated by a larger island than the others of which they are composed. Thus the islands of Otaheite, Owyhee, and Terra del Spirito Santo, are found at the extremity of a line of smaller islands. These analogies might have facilitated the progress of discovery, and especially contributed to make each archipelago more easily recognised. By carefully marking the direction of a chain, navigators might have become almost certain of discovering new islands; and even still, they ought to attend to a principle which may put them on their guard against immense reefs which, in all probability, follow the direction of chains at the bottom of the ocean."

Rivers.] No very extensive rivers have yet been discovered in Australia. The principal are the *Macquarie* and *Lachlan* of New Holland.

Coral Formations, &c.] Of these islands, some shoot up, in a conical form, to a great elevation, while others have for their base a reef of coral rocks, generally arranged in a circular form. "The middle space," says Malte Brun, "is often occupied by a lagoon; the sand is mixed with pieces of broken coral and other marine substances; proving that such islands have been originally formed by these coral rocks, which are inhabited, and according to some, created by *polypi*, and afterwards augmented and elevated by the slow accumulation of light bodies drifted down to them by the sea. It is, however, very remarkable, that among the islands so constituted, some are almost level with the sea, while others have hundreds of feet of elevation, of which last Tongataboo is an example. On their summits are found coral rocks perforated in the same manner with those found at the water's edge. Now the madrepores, millepores, and tubipores, which raise these submarine habitations, (for the true coral polypus is never found there,) grow over the hardened spoils of their dead predecessors.

They cannot live above the level of the sea,—a circumstance which shows that the sea, at a former period, washed these rocks, and gradually retired and left them exposed. Whether have the zoophytes or polypi themselves formed the stony bodies which they inhabit? or do they find them ready prepared by the hand of Nature? This is one of the most interesting problems in physical geography; but hitherto the observations made are too vague and too recent to afford a complete solution of it. Messrs Anderson and R. Forster incline to think that the animals form the matter which composes the coral rock, and consequently that new islands may be formed by their labours. On this point Captain Cook is decided. Dalrymple thinks that the coral rocks are often formed at the bottom of the ocean, from which they are detached by currents and tempests, and thrown on the sand-banks. This may, in some localities, take place, but it cannot apply to the reefs which rise like walls in the middle of the deepest sea, such as the formidable rocks on which Captain Flinders nearly perished, and which probably proved fatal to La Perouse. The great reef of New Caledonia is so steep that Captain Kent, commander of the Buffalo, sounding at no greater distance than twice the length of his ship, with a line of 150 fathoms, could find no bottom. The reefs round New South Wales also rise like perpendicular walls from a very deep bottom. Such structures must owe their origin to the animals themselves, unless we should advance a new doctrine, that they grow by a vegetation resembling that of the fuci, and that the polypi found on them are analogous to the insects which take up their abode on herbs and trees,—a theory to which the arborescent appearance of some corals, and the fungous forms of others, give some countenance.

"The reefs render the navigation of this ocean exceedingly dangerous. In some of its seas these rocks reach the surface, while in others they lie dangerously concealed, having over them only a few feet of water. Woe to the mariner who, in consequence of inacquaintance with the seas, or the power of the currents, gets entangled amidst the pointed spires of this submarine city. The intelligent Captain Cook was neither able to foresee nor avoid such dangers. It happened at one time, by a singularly fortunate accident, that the point of a rock which had pierced his vessel was broke off, and by sticking in the place, and acting as a plug, saved the vessel from destruction. The reefs often extend from one island to another. The inhabitants of Disappointment islands and those of Duff's group can make their visits by passing over long lines of reefs from island to island, presenting the appearance of a regiment marching along the surface of the ocean. On these reefs which are covered with water are found immense collections of *molluscæ* and small shells. Muscles of every variety, pearl oysters, *pinnæ marinæ*, star-fish, and *medusæ* collect in millions."

Climate.] New Holland, which does not extend beyond the parallel of 39° 15′ S. lat., has a less elevated temperature than the latitude would lead us to suppose; the winter is not rigorous, but is remarkable for violent tempests of wind; the cold is never of long duration; the epochs of the seasons are exactly opposed to those of Europe. New Zealand has a temperate but humid climate; and the small extent of the other islands procures for them the temperature of the ocean.

Animals.] None of the great races of the Asiatic quadrupeds has extended to the Australian islands; but several of them possess animals peculiar to themselves. The pig is the only one found everywhere domesticated; and it is of the same species as that of China. Common poultry abounds, and small birds of song are numerous. No seas abound so much in fish as those which surround these islands; many of them are peculiar to this region, but there are bonitas, dorados, tunnies, rays, and mullets. The seals of the Pacific differ from those of the Atlantic.

Plants.] The vegetable kingdom is here exceedingly rich and diversified. Among the most useful esculent plants are the potato, the yam, and the *arum*. The numerous family of palms is extended over the most remote and the smallest islands; and another family of nutricious trees of general prevalence is that of the Artocarpi, or bread-fruit tree. New Holland alone is destitute of these last-mentioned vegetable tribes. The orange-tree extends as far as the New Hebrides; the sugar-cane is found as far to the E. as Otaheite.

Inhabitants.] The Malay stock of the human species is spread over Polynesia and the eastern part of Australia; the second great race of men has been denominated by Malte Brun the *Occanian Negroes*. "They are sometimes," says that geographer, "called the *Papuan race*. Compared to the Africans, they are of a diminutive size, being about four feet nine inches high, and never exceeding five feet. Such, at least, is the account given by Mr Crawford, of those whom he had an opportunity of seeing in western Oceanica. They have spare and puny frames. The skin is not jet black, like that of the African, but of a sooty brown. Sir Everard Home thus describes one who was sent to England by Sir Stamford Raffles, to distinguish him from the African negro. 'His skin is of a lighter colour: the woolly hair grows in small tufts, and each hair has a spiral twist. The forehead rises higher, and the hindhead is less cut off. The nose projects more from the face. The upper lip is larger and more prominent. The lower lip projects forward from the lower jaw to such an extent that the chin makes no part of the face, the lower part of which is formed by the mouth. The buttocks are so much lower than in the negro as to constitute a marked distinction; but the calf of the leg is equally high, as in the negro.'" "They seem doomed," Malte Brun adds, "to perpetual misery, and incapable of rising from the very bottom of the scale of humanity. They have been found hitherto incapable of acquiring the habits and feelings of civilized beings; and we cannot allow that, at any former period, they existed in a superior state of society. This race is extended over New Holland, Van Diemen's Land, New Caledonia, the New Hebrides, New Britain, and Solomon's islands, as well as New Guinea, where they go under the Malayan appellation of Papuas. Of these places they have exclusive possession, the Malays having either been expelled, or never permitted to settle. They seem also to have once occupied the Moluccas and the Philippines; but in these places they have been partly destroyed and partly driven into the interior by the Malays. In the Philippines they are called *Ygolotes* and *Negritos;* in the Moluccas, *Haraforas* and *Alfureses*. Perhaps they are extended still farther. Their features seem to be recognised in the inhabitants of the Andaman islands, and in the Googos of Sumatra."

CHAP. I.—NEW HOLLAND.

To decide whether this region ought to be called an island, or a continent, is not easy, nor is it necessary; for the truth is, that the meaning of the word *continent*, like that of the word *sea*, is not exactly determined. If it were made to depend upon size merely, New Holland might be called a continent, as well as Europe; but Europe is joined on one side by a continent much larger than itself, whereas New Holland is everywhere surrounded by the ocean. Whether or not, therefore, Europe itself would have been called a continent, had it, by the sea, been separated from other parts of the world, is matter of doubt.

Dimensions.] If New Holland be accurately delineated in the late maps, it extends from York Cape, its northernmost point, in 10° 45′ S. lat., to Cape Wilson, its most southern point, in 38° 45′ S. lat.; and from its most western point, in 112° 20′, to Point Danger, its most eastern cape, in 153° 30′ E. long. So that its length, from E. to W., is 2,227 geographical miles, while its breadth, from N. to S., is 1,680 geographical miles; if we suppose its medial length to be 1,730 miles, and its medial breadth to be 1,260 miles, its superficial contents will be 2,179,800 square geographical miles. It is washed by the Indian ocean on the W., and by the Pacific on the E.; to the S. lies the island of Van Diemen; and on the N. it is separated from New Guinea and the Moluccas, by the straits of Torres and of Timor.

Coasts.] That part of the coast with which we are best acquainted is situated on the eastern side, which was explored by Cook. Upon the southern coast, an extent of no less than 23 degrees of longitude remains yet to be explored. Our acquaintance with the northern and the western shores is comparatively superficial. The outline of the coasts is extremely varied; in one quarter they appear bordered with small sterile islands; in another they present only lofty and precipitous rocks; while towards the N., and along the gulf of Carpentana, they are flat and sandy.—On the eastern coast extends a singular chain of coral reefs, which follows the windings of the coast in a direction from S.E. to N.W. It may be penetrated in lat. 18° 52′. The principal promontories on the W. are capes *Vlaming* and *Leemoin;* on the E. capes *Howe, Melville, Sandy,* and *Byron;* to the N. is *Cape York;* and on the S. capes *Wilson* and *D'Entrecasteaux*. Few countries present so many spacious bays and commodious harbours. Towards the southern extremity of the western coast is *Geography* bay; and towards the northern the archipelago of *Dampier*. Along the southern coast, commencing from the W., is *King George's* bay, into which French river empties itself; advancing towards the E. are the archipelagoes of *Recherche* and *Nuyts*, the *Investigator* group, the gulfs of *Spencer* and *St Vincent*, the *Kangaroo* islands; and the fine ports of *Phillip* and *Western*, at the latter of which a new colony was founded in 1826. The eastern coast affords many advantageous points of settlement, as *Jervis'* bay, *Botany* bay, *Port Jackson, Broken* bay, *Port Macquarie, Moreton* bay, &c.

Mountains.] A chain of mountains seems to run in a direction parallel to this coast, at a distance of from 500 to 800 miles. It is only of late that a passage has any where been found across that chain. The coast itself is high, but not mountainous; and is partly shaded by trees of gigantic size. Towards the S.E. a great part of it is covered with coppice: much also is occupied with marshes. About Botany bay the soil is black, rich, and exceedingly productive in plants: from this last circumstance it has obtained the name which it bears. The N.E. part seems lower. The coast is covered with mangroves, and skirted by an immense line of reefs, rocks, and islets: but in every part of it a mountain chain, lying north and south, bounds the horizon; and, though it is lower than the limit of perpetual snow, its numerous terraces, resembling those of the Alleghany mountains and Mount Atlas, long proved insurmountable to the keen and enterprizing curiosity of Europeans. In the neighbourhood of Port Jackson, the first terraces begin at a distance of 10 or 20 miles from the coast.

Interior.] All the settlements are situated at no great distance from the sea coast, on the belt of land, more or less narrow, between it and this range of lofty hills known to the colonists by the name of the *Blue Mountains.* These, though so little removed from the principal settlement, were crossed, for the first time, about the close of the year 1813, by Mr Evans the deputy-surveyor of the colony. On reaching the opposite side he found the herbage to be extremely good, the valleys well-watered, and the mountain streams running to the westward. To two of these, which assumed the character of rivers, he gave the names of the *Fish* and the *Campbell* rivers; and to their united streams that of the *Macquarie.* He pursued its course for 10 days, passing over rich tracts of country, clear of timber, well-watered, and abounding with kangaroos and emus. To this new and promising region, governor Macquarie gave immediate directions for a road to be made, passable by carriages, which, though extending in length upwards of 100 miles, was completed early in 1815; and over which the governor proceeded in person, in the spring of that year, as far as Bathurst plains. From this place he despatched Mr Evans to examine the country to the S.W., in which direction another river had been discovered, afterwards named the *Lachlan.* Not far to the westward of Bathurst is a ridge of limestone hills running north and south through a very beautiful well-wooded country admirably adapted for grazing. It may here be remarked that this ridge runs on a meridional line to a great distance, perhaps the whole extent of New South Wales, as it was observed in three distinct places lying exactly north and south of each other, the extremes of which were 200 miles apart. It also appeared that this meridional distribution was not confined to the geology of the country, but was equally noticeable in the trees and shrubberies, the same species and the same kind of grouping into clumps, or thickets, being constantly observed to take place on the same meridian, and to differ on different meridians. On reaching the point of the *Lachlan* river, where it becomes navigable, the country assumed the appearance of a perfect level, and the soil seemed poor, except on the banks, which were high and steep, and on which alone large trees were found growing. The width of the river was here from 30 to 40 yards. The country was evidently subject to inundations; and as the travellers proceeded they found the grass in some places nearly breast high, coarse, thick, and so entangled as to be almost impenetrable; in others were extensive swamps, interspersed with dwarf-box and gum-trees; swans and other water fowl were in great abundance. The navigation of the river was frequently interrupted by fallen trees, and so winding was its course, that the distance by water was nearly three times that by land. It was however found to be rich in excellent fish. On the 11th of May, the party had reached a spot of the dead level through which the river flowed, where it appeared to lose itself in a multitude of branches among marshy flats; and where a rise of 4 feet would have been sufficient to sweep them all away, since there was not within sight the smallest eminence to retreat to. Lieutenant Oxley, therefore, determined to strike off to the S.W. for Cape Northumberland, knowing that if any river emptied itself into

Bass's strait, between Spencer's gulf and Cape Otway, that course would intersect it; and that, if the Lachlan united itself into one stream beyond the marshes, he would thus be most likely to fall in with it. The party accordingly commenced their journey, and at the end of five weeks came again, unexpectedly, upon the banks of the Lachlan, much diminished in size, but still running in a tolerably brisk stream to the westward. The country over which they had travelled to gain this part of the river, was of the most miserable description; and the sufferings of the party from fatigue and want of water were very great. In some places they fell in with a little grass in patches, just sufficient to keep their cattle alive, but this was of rare occurrence. "It is impossible,' says Mr Oxley, "to imagine a more desolate region; and the uncertainty we are in, whilst traversing it, of finding water, adds to the melancholy feelings which the silence and solitude of such wastes are calculated to inspire." As the party advanced to the N.W. they came to a low range of stony hills, equally barren with the sandy deserts which they had passed; these, however, abounded with dogs, whose howlings were incessant by day as well as by night. As there was no appearance of any kind of game, it was concluded that the principal sustenance of these wild animals must be rats, which had undermined the whole country. On the 23d June the appearance of a flock of large kangaroos, of emus and bustards, and the change of the soil from loose sand to stiff tenacious clay, bearing evident marks of occasional inundations, left little doubt on the minds of the party that a river would be met with at no great distance; and accordingly they all at once found themselves upon the banks of the Lachlan, the course of which they now determined to follow. The face of the country continued to present a dead level on all sides, and in the neighbourhood of the river was full of bogs and swamps. "We seemed," says Mr. Oxley, "the sole living creatures in those vast deserts." There was no object to relieve the eye but a few scattered bushes, and occasionally some dwarf box-trees, the view being as boundless as the ocean.

Our travellers, however, still proceeded down the stream till, on the 7th July, it became evident that the channel was the bed only of a lagoon, the current being now imperceptible, and the waters and morasses so intercepting each other as to render all farther progress impossible. The water was muddy, and the odour arising from the banks and marshy ground offensive in the extreme. Mr Oxley determined to return, concluding, rather summarily we conceive, that the interior of this vast country was a marsh, and uninhabitable. "Perhaps," he adds, "there is no river, the history of which is known, that presents so remarkable a termination as the present: its course in a straight line from its source to its termination exceeds 500 miles, and including its windings, it may fairly be calculated to run at least 1,200 miles; during all which passage, through such a vast extent of country, it does not receive a single stream in addition to what it derives from its sources in the eastern mountains."

Paterson's River, in lat. 32½°, may be considered as the northern boundary *of the districts over which the British population is at present spread. Setting out from this point, Mr Cunningham travelled 300 miles north*ward to the parallel of 28°, keeping always on the west side of the mountains, and generally at the distance of about 150 miles from the coast. The first tract he crossed on his way north was the extensive flats called *Liverpool Plains*, which were discovered some years ago, and were found quite parched, "hardly any rain having fallen for 15 months." Beyond this he found some tracts of good soil, but the country, taken generally, is of the same description with that previously known, the only fertile land consisting of a stripe extending along the back of the chain of mountains, which changes gradually into barren plains as we proceed inwards, and terminates in all probability in a great lake, bordered by wide spread marshes. A grander country can hardly be conceived than what presents itself to the westward of the dividing range, nearest the coast line, in 28° and 29°. Extensive downs, affording the finest pasturage for sheep, with the soil formed by the decomposition of whinstone, is the general character of the country, while numerous rivulets, all running to the northward and westward, and rich flats for cultivation, offer every inducement for a speedy settlement of this country. The elevation of these downs is considerable. Mr Cunningham, having ascertained by barometrical observation, that, although not so lofty as the village of Bathurst, they are as much as 1,500 and 1,800 feet above the level of the sea; while Liverpool plains, so much farther inland, averages only 900 feet. Mr Cunningham, of course, kept too far inland to see any thing of the rivers *Hastings*, *Logan*, or *Brisbane*; 20° 6′ S. was the farthest point he penetrated to, and the meridian of 152° E., about 70 miles from our settlement on the Brisbane. At this point it was judged prudent to return, the horses having suffered very considerably, owing to the dryness of the season. Throughout the journey, Mr Cunningham only fell in with native blacks on four occasions, and as soon as they saw the horses they ran away with the greatest affright. To the W. of 151° the whole country, with the exception of a few ranges, appears to get flatter, and slope off generally to the north and west, which seems to confirm the theory of some great inland sea in that direction. In addition to the discovery of the splendid country at the head of the rivers Logan and Brisbane, Mr Cunningham has ascertained the practicability of a good road throughout this extensive country.

Vegetation.] It has been remarked, that in New Holland has never yet been found either the majesty of the virgin forests of the new world, the variety and elegance of those of Asia, or the delicacy and freshness of the woods in the temperate countries of Europe. Vegetation is in general dark and sombre,—it resembles the shade of our evergreens or copses. Woods of different kinds, adapted for every useful purpose, have been found; grain succeeds well, and yields a sure and abundant crop. Wheat, maize, oats, and rye, are cultivated, the two former in largest quantity. Those parts in which different trials have been made, have rather too warm a climate for common barley and oats, though these grains have been found to succeed tolerably well on the poorer soils. The skinless barley, or Siberian wheat, arrives at great perfection. Potatoes, cabbages, carrots, parsnips, turnips, pease, beans, onions, and all the vegetables grown in England, are produced in the English colony. The same locality is now famed for the goodness and variety of its fruits; peaches, apricots, nectarines, oranges, lemons, guavas, loquets, cherries, walnuts, almonds, grapes, pears, pomegranates, and melons, attain the highest maturity in the open air; and the pine-apple may be reared with a common forcing glass. *The peach is the most abundant, and the most useful of the fruits. It is given*, as in America, *for feeding the hogs, and is fermented into cyder.* From the great extent of terrestrial latitude through which this country passes, we must conclude that those parts which lie nearer the tropic and the equator are capable of yielding products suited to the torrid zone, as soon as fair experiments are made; and that those, on the contrary, which have a higher southern latitude, will exhibit the vegetation of colder countries. Accordingly the island of Van Diemen has been found to produce apples, gooseberries, and some other fruits, in greater perfection than the colonial settlement of Port Jackson. Forest timber, brushwood, and grass, are not formed into zones, according to their elevation, as in countries of more uniform surface and severe climate. It is the soil chiefly that determines the native vegetation of Australia; and as that is continually varying with the form and the exposure of the surface, the native pastures come much nearer to landscape gardening than any thing that is met with in almost any other country. There is a grove here, a lawn there, a shrubbery in another place, and in another still a natural wall of the light coloured stone appears at the openings of the foliage, as if it were part of the enclosure of a garden. Sometimes these are all upon so small a scale, that they would suit a labourer's cottage; at others, they would answer for a villa; and sometimes there is a vast extent, with a few clumps and scattered trees, as a domain ample enough for the most splendid palace. On the elevated country to the N.E. of Bathurst, and that for a very considerable extent, a stranger would find some difficulty in persuading himself that he was in a country, not only which the hand of man had not touched to improve it, but where there was not one fixed and hardly even a wandering inhabitant. These delightful regions lie under the disadvantage of being approached with difficulty; but to those who would be content with the produce of a fertile soil, and in the enjoyment of a genial climate, in their own locality, few places are more inviting than this. Such is the general aspect of the unimproved country upon the eastern coast of New Holland.

" There is something," says a Quarterly Reviewer, " so strangely different in the physical constitution of Australia from that of every other part of the world,—we meet with so many whimsical deviations, on the two islands of New Holland and Van Diemen's Land, from the ordinary rules and operations of nature in the animal and vegetable parts of the creation, that he must be a dull traveller indeed who does not glean something new and amusing from these regions which are yet so imperfectly known to us. We might produce a host of instances in illustration of this anomalous character: Thus, we have in one or other, or both of these colonies, birds without wings as large as deer, their bodies covered with hair instead of feathers,—beasts with the beaks of birds,—swans that are black, and eagles white. Here, too, we find the ferns, nettles, and even grasses, growing to the size and shape of trees,—rivers running from the sea, and lost in interior swamps,—trees that are ever green in spite of frost or snow, —extensive plains on which, as one writer tells us, one tree, one soil, one water, and one description of bird, fish, or animal, prevails alike for ten miles and for one hundred." This is New Holland, says Field, where it is summer with us when it is winter in Europe, and vice versa; where the barometer rises before bad weather, and falls before good; where the north is the hot wind, and the south the cold; where the humblest house is fitted up with cedar; where the fields are fenced with mahogany, and myrtle-trees are burnt for fire-wood; where the kangaroo, an animal between the squirrel and the deer, has five claws on its fore-paws, and three talons on its hind legs, like a bird, and yet hops on its tail; where the mole lays eggs, and has a duck's bill; where there is a bird with a broom in its mouth instead of a tongue; where there is a fish, one-half belonging to the genus *raia*, and the other to that of *squalus;* where the pears are made of wood with the stalk at the broader end; and where the cherry grows with the stone on the outside. Captain Hunter describes birds with the head, form, and plumage of the parrot, and the long slender legs of the sea-gull; and others with the legs and feet of a parrot, the head and neck made and coloured like the common sea-gull, and the wings and tail of a hawk. He also states himself to have seen trees bearing three different kinds of leaves, and to have found others bearing the leaf of the gum-tree, with the gum exuding, and covered with bark of a different kind.

Mineralogy.] Coal has been found both to the east and west of the Blue Mountains. On the E. coast it has been traced more than 100 miles to the N. It can be purchased at Sydney at 20*s*. per ton; but is not generally used, as wood is still very abundant and cheaper. Iron seems to be plentifully diffused, particularly on the shores of the gulf of Carpentaria; but English iron can still be furnished so cheap as to preclude the necessity of working the native stores of this metal. Copper and lead have been also traced. Limestone exists, but has not yet been found in any great quantity. Rock crystals, garnets, and agates have been found in Australia, but none of the more precious gems.

Native Inhabitants.] "New South Wales," say Malte Brun and his English editor, "seems to offer at least three native varieties of inhabitants, all belonging to the race of Oceanian negroes. In the neighbourhood of Glasshouse Bay, the savages have large heads, which in shape resemble those of the ourang-outang. Their very limited intellects, their hairy bodies, and habitual agility in climbing trees, seem to bring them near the monkey character. To the south-west of the English colony, tribes have been found which speak a distinct language, and have hardier constitutions than those in the immediate vicinity of that colony. The latter are the only race that is well known to us. Perhaps no people in the world has made less progress towards civilization. They are simply divided into families or tribes, each of which is distinguished by adding the syllable *gal* to the name of its place of residence. The south shore at Botany Bay is called *Gwea*, and the tribe that lives in it *Gwea-gal.* The features of the women are not altogether unpleasant. A black thick beard, and pieces of bone stuck in the cartilages of the nose, give the men a disgusting appearance, and the fetid odour of their bodies, from the fish oil with which they habitually anoint themselves, to obviate the supposed noxious agency of the air, and the bites of musquitoes. They paint themselves with white or red figures. The women are distinguished by the want of two joints of the little finger of the left hand. This practice of amputation, together with that of extracting one or two teeth of the boys at an early period, are thought by some to be intended for the purpose of inuring them to suffer pain with fortitude. Their eye-sight is uncommonly acute. Some of them are almost as black in complexion as the African negroes; others are copper-coloured: their hair is generally long, and not woolly like that of the Africans. There must, however, be exceptions to this rule, if the print of a native, called *Cobawn Wogy*, given by Mr Dixon, is correct, which we have no reason to doubt. They have flattened or aquiline noses, wide nostrils, hollow eyes, thick eyebrows, thick lips, larger mouths than any other people, and white regular teeth. Their arms, legs, and thighs, are extremely lean, probably in consequence of the indifferent quality of their diet. Those on the sea-coast live on fish: a few live in the woods on such animals as they can catch, and climb the trees to eat the honey contained in them, or to catch flying squirrels and opossums. Their huts are rudely constructed of the bark of trees, in the shape of kilns. The fire is placed at the entrance, and the interior is full of smoke and dirt. There they sleep promiscuously, in so far as their hostilities and frequent assassinations will allow. It is only in the fabrication and use of their weapons that we perceive any proofs of intelligence. With the aid of a wooden rest they throw their javelins with such dexterity as to be sometimes formidable to Europeans. They kill fish with a kind of fork. The women also fish with lines made of the inner bark of some trees, and hooks made of the shell of the pearl oyster, filed to the requisite form with a stone. Some of them catch kangaroos in snares. Caterpillars and worms also constitute part of their food. Their canoes are made of the bark of trees, fixed on wooden frames. Nothing can equal the brutality of these tribes in their treatment of the weaker sex. In order to obtain a woman in marriage, a man lies in wait for her in some place of retreat, knocks her down with a bludgeon or wooden sword; and, while she is yet besmeared with blood, takes her to his own home, where the nuptial ceremony is completed in a manner too shocking to be described. Polygamy is very generally practised. Both sexes go naked, and have no feelings of shame. One tribe, which is strong and numerous, maintains the singular privilege of extracting a tooth from all the youths belonging to another; this being the only mark of superiority on the one side, and homage on the other. This tribute of the teeth is exacted every four years, and is represented, in a number of engravings published by Mr Collins, as a singular feature of savage life. In some parts of these plates we see the figure and character of man degraded by being placed on all four, and furnished with an artificial tail, as if the dog or the kangaroo were his superior. In other parts, the custom now mentioned seems to be a sort of initiation to physical pain and the hardships of war. They have very faint notions of a future state, believing that at death they shall either roam through the regions of the air like cuckatoos, or return to the clouds from which they originally came—a strange notion, common to them with the Alfoors in the island of Ceram. These poor savages are also enslaved by superstition; believing in magic, sorcery, and ghosts. The last may probably owe their rise to the disturbed sleep and the habitual terrors of their miserable lives. They employ charms against thunder and lightning; and pretend to foresee future events by the meteors called falling stars. When children die, they bury them; but the bodies of warriors who are past the meridian of life are burned: and their graves are distinguished by rude monuments. If a woman dies while suckling an infant, the latter is buried alive in its mother's grave. Yet these barbarians are seen crying over the grave of a child or a friend. Their eyes, humanized by the tears of affection, are then turned up to heaven. They show some respect for old men, and do not labour under that irresistible propensity to theft which characterizes the islanders of Polynesia. Mr Collins has given us a short vocabulary of their language. It is bold, harmonious, and expressive, and has no resemblance to any other known language. But in different parts of the country, the languages seem to differ as much from one another as from those of the rest of the world."

The native blacks of New South Wales found along the coast, are a wretched race of human beings. They lie and live among the bushes like the beasts of the field, and seldom inhabit the same spot above once. They erect no hut to repose in during the night; only collect a few branches of trees, which they fix in the ground, to shelter them on one side from the influence of the wind; on the other they kindle a fire. Mimosa gum, fern roots, fish, snakes, opossums, bandecoots, and kangaroos, some of which they spear only with difficulty, form their common food. The very limited means of subsistence which the country naturally affords, necessitates them to travel over a great extent of surface in quest of food, which almost precludes the possibility of a permanent abode. Mr Oxley, on reaching the point where the Lachlan river becomes navigable, fell in with a considerable number of natives, who flocked down to the opposite side and swam across, with their *galengars* or stone-hatchets in their hands, which, on landing, they laid at the feet of the strangers. They were stout, well-featured, and manly in their appearance, with long black beards. The words used by these people had not the remotest resemblance to those used by the natives of the coast for expressing the same objects, though at so short a distance from each other. Seven days after they fell in with another party, who came up boldly to them; they were clothed in cloaks made of the skins of the opossum, with their hair bound up in nets neatly worked; their faces were daubed with a red and yellow pigment; and the front teeth of the upper jaw were wanting in all. The party met too with a tumulus or grave, apparently of recent construction: it was a cone about 5 feet high, surrounded by semicircular seats. On opening it, the earth to the depth of about four feet was found to be supported by three or four layers of wood, beneath which were several sheets of bark on a bed of dry grass and leaves, in a state of perfect preservation; and, under all, the body, with the face downwards, and the head to the east, the feet bent quite back, and the arms between the thighs. The body was wrapped in a number of opossum skins, and the head enveloped in the net usually worn by the natives. Two cypress trees at a little distance had been barked on the sides next the tumulus, and some curious characters deeply cut into them.

Settlers.] The total colonial population of New South Wales may now be 50,000 souls. Of this population about one-half consists of convicts in a state of servitude, and a fifth more of emancipated convicts, and of the remaining 12,000, nearly one-half may have been born in the country. Of the character of the colony-born population there are but few data for judging. In physical respects there appears to be a slight deterioration; they grow up more rapidly than in England, and begin to decay sooner. Servants are scarce, and not generally trust-worthy. If they be convicts (many of whom have the privilege of hiring themselves,) no credence can be given to their professions of honesty; if they be free, they are drunkards, impertinent, and they always insolently demand the most enormous wages. It is a curious fact, that dress among the ladies in Sydney is more gaudy than even among the most fashionable ladies in this country. This may, perhaps, be attributed to the easy means of intercourse which subsist between this place, China, and the Indies; but the proudest apparel that an English lady can wear at Sydney is a Manchester printed cotton, or a British chintz. Of the encouragement which the industrious mechanic would meet with in New South Wales, some idea may be formed from the following extract from Mr Atkinson's recently published account of that colony. "The wages of free mechanics are in general very high; the greater part of the best workmen find employment in the towns, and cannot be tempted into the country unless very great wages are offered them; the daily pay of good carpenters, bricklayers, and others of the most useful description of tradesmen, is from 8*s*. to 10*s*. per day. Most persons, however, who have any buildings to erect, endeavour to get it performed by contract, either by the piece or by admeasurement. The generality of the mechanics are a drunken dissolute set of people, and a continual source of trouble and vexation to those who are under the necessity of employing them. Blacksmith's work, in making new articles, is usually performed by the lb., the employer finding iron, and the smith returning 90 lb. of worked for every 100 lb. of bar or other iron delivered to him; the charge for workmanship is generally 4*d*. per lb. Wheelwright's work is performed by the job or piece, much as in England. Some persons who have large establishments, and a considerable quantity of land under cultivation, keep a blacksmith and wheelwright of their own constantly employed upon their farms; various agreements are made with these men; sometimes they are hired by the year, sometimes by the week, and sometimes are paid by the job for the work they perform, and in some few cases they are convict servants. It is usual to allow men of this description, and other tradesmen employed upon farms, if they have any spare time after they have done the work required by their employer, to execute any jobs that may be brought to them by any of the settlers in the neighbourhood; this plan is attended with advantage both to the men and the community at large; and provided the men, if convicts, are not allowed to go away from the farm for the purpose, is productive of injury to no one."

For the information of persons proceeding to New South Wales and Van Diemen's Land as settlers, it has been deemed expedient to prepare the following summary of the rules which his majesty's government have thought fit to lay down for regulating the grants of land in those colonies:

1. A division of the whole territory into counties, hundreds, and parishes, is in progress. When that division shall be completed, each parish will comprise an area of about twenty-five miles; a valuation will be made of the lands throughout the colony, and an average price will be struck for each parish.

2. All the lands in the colony not hitherto granted, and not appropriated for public purposes, will be put up to sale at the average price thus fixed.

3. All persons proposing to purchase lands, must transmit a written application to the governor, in a certain prescribed form, which will be delivered at the surveyor general's office, to all parties applying, on payment of a fee of two shillings and sixpence.

4. All correspondence with the local government respecting grants of land must take place through the same office.

5. The purchase-money to be paid by four quarterly instalments. A discount of ten per cent. will be allowed for ready money payments.

6. On payment of the money, a grant will be made in fee-simple to the purchaser, at the nominal quitrent of a peppercorn.

7. The largest quantity of land which will be sold to any individual is 9,600 acres. The lands will generally be put up to sale in lots of three square miles, or 1,920 acres. Persons wishing to make more extensive purchases must apply to the secretary of state in writing, with full explanation of their object and means.

8. Any purchaser who, within ten years after his purchase, shall, by the employment and maintenance of convicts, have relieved the public from a charge equal to ten times the amount of the purchase money, will have the purchase money returned, but without interest. It will be computed that for each convict employed, and wholly maintained, by the purchaser, for twelve months, L.16 have been saved to the public.

9. Lands may also be obtained without immediate purchase, but upon different conditions.

10 Persons desirous to become grantees without immediate purchase, will make their application to the governor in writing, in a prescribed form, copies of which are to be obtained at the surveyor general's office, on payment of two shillings and sixpence.

11. The largest grant that will be made to any fresh settler without purchase, is 2,560 acres. The smallest 320 acres.

12. No grant is to be made to any person without immediate purchase, unless the governor is satisfied that the grantee has the power of expending, in the cultivation of the lands, a capital equal to half their estimated value.

13. A quit-rent of five per cent. per annum upon the value of each grant of land, as estimated in the survey, will be levied on all such grants; but such quit-rent will not commence to be levied until the expiration of the first seven years next succeeding the issue of such grant. At the expiration of the above-mentioned seven years, the grantee will become possessed, in fee simple, of the grant, subject to the payment of the quit-rent—or he will be entitled to redeem such quit-rent, if he prefer that alternative.

14. The quit-rent will always be redeemable at 20 years' purchase; the power of such redemption commencing at the termination of the first seven years, when such quit-rent is first levied.

15. Every grantee without purchase must, at the expiration of the before-mentioned term of seven years, prove to the satisfaction of the surveyor general that he has expended, in the cultivation and improvement of his land, a capital equal to half its value, as that value was estimated at the time of his grant. On failure of such proof, the land will be forfeited to the crown.

16. In the redemption of his quit-rent, the grantee will have credit for one-fifth part of the sums, which he may have saved to his majesty's government by the employment and maintenance of convicts, and for the purpose of making this allowance, it will be calculated that the government has saved L.16 for each convict employed by the grantee; and wholly maintained at his expense on his land, for one whole year. In the case of such grantees as may not have an opportunity of obtaining convicts, and thereby reducing the amount of their quit-rent in the manner laid down in this clause, every such grantee, upon showing an expenditure of capital on his land to the amount of five times the estimated value of that land at the time of its being granted to him, will be entitled, at the expiration of seven years from the time of such grant, to claim a reduction of one-half of his annual quit-rent, whether for the purpose of annual payment or redemption.

17. No additional grant of land will be made to any person, who has not proved, as last mentioned, the necessary expenditure of capital, on the lands already granted to him, and that he has sufficient capital in hand to enable him to cultivate to advantage the additional grant for which he applies.

18. Persons receiving a second grant of land, without purchase, will become liable to pay a quit-rent upon the lands comprised in such second grant, immediately from the date of it; but any grantee, who can show an expenditure of capital upon his first grant, to the amount of five times the estimated value of that grant at the time of its being made to him, will be entitled to a further grant, at the rate of 2½ per cent. on the estimated value of such grant, on proving that he has sufficient capital still in hand to cultivate to advantage the additional grant.

19. The same regulation will apply to purchasers of land, who may make application for a second purchase, and who can show that they have laid out capital upon such land, to five times the amount of its value. In such a case, half the estimated value of the new land will be remitted.

20. Persons desirous to receive grants of land, without purchase, on terms different from those above stated, must lay before the secretary of state a full explanation, in writing, of the circumstances which they may conceive to exempt them from the fair operation of these general rules.

Colonial Office, Downing-street, April 1826.

Government.] New South Wales and Van Diemen's Land are under the control of governors; the governor of the former being governor-general, but the latter having the power of acting independently in his absence. Each of the governors is assisted by a legislative council of 7 persons, chiefly, it is believed, composed of the principal stipendiaries of the government. The governors are appointed by the crown, and the councils, in the first instance, by the crown also; but the blanks are unfortunately allowed to be filled up by the governors. There are separate courts of law and equity for New South Wales and Hobert Town. The revenue is about £25,000. For the education of the poor there are a good many schools, the teachers of which are paid out of the public funds. Australia, in matters ecclesiastical, is under the bishop of Calcutta. The establishment consists of 12 clergymen, under the superintendance of an archdeacon. A college has recently been founded at Sydney.

Topography.] New South Wales is divided into the following provinces:

Cumberland,
Camden,
Argyle,
Roxburgh,
Londonderry,
Durham,

Westmoreland,
Northumberland,
Ayr,
Cambridge.

Cumberland extends about 50 miles along the coast from the mouth of the Hawkesbury to the coral cliffs, southward of Botany Bay. It contains the capital of the settlement. Camden lies to the S. of Cumberland, and presents in most parts a rich vegetation. Argyle lies to the S.W. of Camden, upon the Wolandelly and Napean rivers. Westmoreland occupies the eastern slope of the Blue mountains. Northumberland stretches along the coast from Broken bay to Hunter's river, and indefinitely into the interior. Durham extends from the last-mentioned river to Manning river, in latitude 32°. Ayr is the name given to the country on Port Macquarrie and the banks of the Hasting's river. Londonderry lies to the W. of Westmoreland. Roxburgh lies to the N.E. of Londonderry. Cambridge is situated to the westward of Ayr, and is nearly enclosed by mountains.

Town of Sidney.] Sidney, the capital and seat of government of this remarkable colony, is in 33° 55′ of S. lat., and 151° 25′ of E. long., about 7 miles from the entrance of the bay called the heads of Port Jackson. It stands principally on two necks of land, along which the water is in general of sufficient depth to allow vessels of the largest burden to approach to the side of the rocks. In the first instance all the houses were built according to the wishes of individuals, without any plan, so that the older part of it, called *the Rocks*, is quite irregular. But by the arrangements of governor Macquarrie, a perfect regularity has been established in most of the streets. It contains about 7,000 inhabitants, but is diffused over a proportionably large space. The houses are in general small, and each has a garden adjoining to it. It contains many public buildings, and a few private houses, built by successful traders, which give it the character of a rising metropolis.

Paramatta.] At the head of the harbour of Port Jackson, fifteen miles from Sidney, is another town called Paramatta, to which the river, for the last eight miles, is only navigable for boats of 15 tons burden. This town consists chiefly of one street, a mile long. Though inferior to Sydney in the style of buildings, it contains some good ones, which, with the church, the government house, the new orphan house, and some villas, give it a respectable appearance. The population is estimated at 1,200. Two annual fairs are held here. It contains some excellent public institutions, one of the most interesting of which is a school for the education and civilization of the aborigines of the country, founded five years ago. It has produced some pleasing and promising effects, and the children discover not the least deficiency in mental capacity.

Windsor.] Further from the sea, and about 35 miles from Sydney, is the town of Windsor, situated on one of the tributaries of the large navigable river Hawkesbury; which falls into the sea at Broken bay, to the north of Port Jackson. It stands on a hill about 100 feet above the level of the sea. The buildings here, as at Paramatta, are, in general, weather-boarded without, and lathed and plastered within. It contains a church, a government house, hospital, barracks, court-house, store-house, and jail. It contains a more splendid inn than any other in the colony. Its population is about 600 souls, consisting chiefly of settlers, who have farms in the neighbourhood, with a few inferior traders and mechanics.

Settlement of Western Port.] This settlement was founded in 1826, by Captains Wright and Wetherall, who describe it as the most eligible site for a settlement on Bass's straits, and indeed the only one possessing the

Eng.d by R. Scott

SIDNEY, NEW SOUTH WALES

Pub.d by Arch.d Fullarton & C.o Glasgow

requisite advantages—good anchorage, fresh water, and rich open forest and meadow-land, in its immediate neighbourhood. All the ground to the W. of a line passing from Bass's river, due N., to the eastern arm of this port, including about 5 miles square, is of excellent quality, and well-watered by lagoons and small streams. On the N. shore of this square, 2 miles E. of Kangaroo point, the settlement is established. The harbour (Western Port) is easy of access, and has no hidden danger; and has no less than 7 fathoms water in mid-channel to the anchorage, which is safe and commodious, with good holding-ground, well sheltered from every wind, and capable of containing any number of ships in the most perfect security. The tides are rapid, and rise from 8 to 11 feet, being influenced by the prevailing winds in the straits. The eastern passage (to the anchorage) is narrow and intricate, a reef of rocks extending nearly half-way across from Philip island, and the opposite shore lined with breakers. It is well adapted for a fishing station, and, with the prevailing westerly winds, would afford egress to small vessels bound to the eastward; but, under any other circumstances, would not be safe to attempt. There is abundance of fresh water on this part of the island. The main land, from the point opposite the eastermost extremity of Philip island to Bass's river, is hilly, of moderate elevation, thinly-timbered, the soil rich, and well-clothed with luxuriant grass; but, from the broken nature of the ground, fit only for grazing. Bass's river cannot be approached, even by boats, at low water, owing to the extensive mud-banks which surround its entrance. It is extremely winding in its course, and salt for 5 or 6 miles up, where it is met by a fresh-water rivulet taking its rise from an adjoining swamp. The land, on the right hand, as you enter Bass's river, appears to be a salt water swamp, interspersed with a few elevated patches of rich meadow, and occasional rows of the tea-tree. Salt water ponds are also numerous, and appear to extend to the foot of the range of hills running from the point of the main-land formed from the eastern passage of the strait. About 3 miles from the entrance of the river, on the left, the river rises gradually, and assumes the most beautiful appearance. The trees are dispersed in clumps over an extensive plain of rich meadows. The timber consists of the gum-tree, apple, mimosa, tea-tree, and honeysuckle, and, excepting the latter, is generally of an inferior quality. The range of the thermometer, on board ship, from 64° to 82°, attaining the latter height only during the hot northerly winds. When the thermometer has fallen to 67°, the average height at noon has been 75°, and the barometer 30. 22. inches. The natives appear numerous. Kangaroos are in great abundance, herding together like deer. Black swans, ducks, and teal, are also numerous. Fish are not abundant, owing to the number of sharks, dog-fish, and sting-rays. The sorts generally caught are mullet, whiting, sword-fish, and, in one instance, a snapper. Gulls, pelicans, cranes, and the other varieties of sea-fowl, frequent the shores and lagoons.

Topographical Table.] The following table of the principal stations in our colony of New South Wales, and of their respective distances from Sidney, in English miles, is taken from an official document published at Sidney on the 9th of May, 1829:—

Names of Towns and Stations.	Particular Situation.	County.	Distance from Sidney.
Appin,	At the King's Falls, where the Illawarra road crosses the George river,	Cumberland,	45
Arthur's Leigh,	At the Wollendilly, near Eden Forest,	Argyle,	100
Bateman Bay,	On the S. coast,	St Vincent,	166

Names of Towns and Stations.	Particular Situation.	County.	Distance from. Sidney.
Bathurst Flagstaff,	Town of Bathurst,	Bathurst,	126
Black Head,	A point on the coast, near Geirgong, at the northern extremity of the bay into which the Shoal Haven river discharges itself,	Cambden,	89
Bonnum Peak,	A remarkable point of the perpendicular mountain which terminates the Burragorang,	Cambden,	76
Botany Bay,	The most elevated point of Cape Solander,	Cumberland,	18
Bullis Mountain,	The southern extremity of the Burrogorang,	Cambden,	85
Campbell Town,		Cumberland,	32
Campbell River,		Westmoreland,	131
Cape Banks,	The northern extremity of Botany Bay,	Cumberland,	11
Carrochilly Mountain,	Between the coast and Shoal Haven,	St Vincent,	165
Elisabeth Point,	Between Sugar-loaf Point and Cape Hawke,		222
Five Islands,	Illawarra,	Cambden,	65
Goulburn,	On the Wollendilly,	Argyle,	121
Illawarra Lake,	In the neighbourhood of Appin,	Cambden,	70
Jellore Hill,	Near the source of the Nattai river,	Cambden,	70
Jeery's Plains,	On the Hunter river,	Northumberland,	122
King's Plains,	Near the head of the Belubula, 20 miles S. W. from Bathurst	Bathurst,	147
Liverpool Town,		Cumberland,	20
Macquarrie Lake,	S. point of Reid's Mistake,	Northumberland,	105
Manning river,	To John's Island at its embochure.		225
Molongolo,	Molongolo river, S. of Lake George,	Murray,	169
Mount Harris,	Near the termination of the Macquarrie,		348
Fingall Cape,	To the northern extremity,		215
North Point	Of Port Jackson,	Cumberland,	9
The Oaks,	At Verieberri creek,	Cambden,	48
Parramatta,		Cumberland,	15
Paterson's Plains,	On the Paterson's river,	Durham,	134
Pitt Town,		Cumberland,	34
Platter Island,	To the N. of Bateman Bay,	St Vincent,	158
Port Stephens,			180
Richmond Town,		Cumberland,	38
Springwood,		Westmoreland,	48
Stonequarry Creek,		Cambden,	47
Strathallan,	On the Wollendilly,	Argyle,	121
Sugar-loaf Point,	W. from Port Stephen,		220
Swan Lake,	Near the St George,	St Vincent,	122
Ulladulla,		St Vincent,	136
Wayo Mountain,	Near Pegas, on the Wollendilly,	Argyle,	130
Wellington Valley,			238
White's Creek,	On the road to Goulburn,	Cambden,	80
Windsor Town,		Cumberland,	36
Wolowolar Mountain,	S.W. from Lake Bathurst,	Argyle,	147

Bathurst and Melville Islands.] These islands are situated off the northern coast of New Holland. They were taken possession of by Captain Bremner, on the 26th of September, 1824, in the name of his Britannic majesty. The soil of these islands appears to be excellent, and probably capable of producing all the fruits and valuable shrubs of the eastern islands. The plants brought from Sidney flourish luxuriantly, and several large ponds have been found, near which there is no doubt valuable rice-plantations may be made. Amongst the timber, some of which is of majestic height, and well calculated for many purposes of human industry, were found a species of lignum vitæ, the cabbage-palm, and the sago-palm, with several others, the names of which are not known. There was also a tree which produced a species of cotton, samples of which have been sent to England. Some of them produce a gum of remarkable astringent quality. On the shores have been found quantities of the sea-slag, designated *Tre Pang*, or *Beache de la Mer*, so valuable in the China market, but not so abundant as is supposed to exist further to the eastward. The climate appears to be in every respect as good as any to be found between the tropics, the thermometer rarely reaching 88 in the hottest part of the day. The aboriginal inhabitants are generally above the middle stature, their limbs straight and well-formed, possessing wonderful elasticity, and rather actively than strongly built. Their colour is nearly black, their hair coarse, but not woolly, and almost all of them are marked with a kind of tattoo. The men are entirely naked; but the females wear a small mat of grass or rushes fastened round the body. Their arms are, the spear, which is a slight shaft well hardened by fire, and about 10 feet long, and the waddy, a short stick, which they throw with wonderful precision, striking with great certainty a bird on the top of the tallest tree. The natives of this part of New Holland resemble those of New South Wales, but appear to stand a degree higher in the gradatory scale of the human species. In person they are certainly superior, and the covering of the women is no doubt a step towards a higher degree of civilization. Their notions of a Supreme Being and of a future state are evidently less confused and barbarous; for on Bathurst island there was found the tomb of a native, which, from its simplicity, and the order in which it was kept, would not have disgraced people much farther advanced in intellectual endowment. It was of an oblong shape, open at one end, the remaining sides being railed round with small trees about 8 feet in height, many of which were curiously carved with a stone or shell, and surmounted by the waddies of the deceased. The earth was raised above the level, as is usual with Europeans, but this part was not more than 3 feet long, and at the head stood a piece of canoe and a spear. The sand and bushes were kept clear from around the tomb, and nothing could exceed the neatness of the interior of the area. It is quite unusual to find this respect for the dead among the natives of Australia.

CHAP. II.—VAN DIEMEN'S LAND.

This island lies to the southward of the eastern part of New Holland. It is situated between 40° 45′ and 44° S. lat.; and between 145° and 148° 30′ E. long. Its form is that a parallelogram. Its length, according to the late maps, is 195 geographical miles; its breadth 175 geographical miles. Cape Portland on the N. E., and Cape Grim on the N. W., are nearly upon the same parallel, and their distance is about 150 miles. South-west Cape lies about 80 miles to the E. of Cape Grim; and Cape Pillar about 20 miles N. of South-west Cape, and nearly S. of Cape Portland. Van Diemen's Land was always supposed to form part of New Holland, until Messrs Bass and Flinders ascertained its insularity. These navigators describe the strait which separates the two islands as extremely intricate and dangerous, but possessing the highest interest, from the rapid succession of objects which arrest the attention, as well as from the peculiarity of its nature. In some places the coral-reefs, scarcely affording room for the ships to pass, occasionally the furious breakers, caused by the swell of the Southern ocean on the outer edge of the reefs, were close to the vessels; at others, the eye, from the mast-head, was unable to discover the termination of this tremendous mass of rock. The passage is about 500 miles in length, and the water was constantly as smooth as in a lake.

Shores, Bays, &c.] The shores of Van Diemen's Land are bolder in character than those of New Holland. The N. E. shore, near Cape Portland, consists of a sandy beach, occasionally broken by rocky head-lands.

Behind it are gently rising hills; and over their green slopes the mountains of the interior rear their lofty and naked summits. As the entrance of the river Tamar is approached the country becomes fertile, and continues so for a considerable distance westward. To the W. of *Circular Head*—a remarkable promontory running 12 miles out into the sea—the shore is low and sandy, and the interior covered with heath. *Cape Grim* is a high, bold, dark-coloured cliff. About 70 miles to the southward there is a narrow inlet, which has not yet been explored, but which is thought to be the estuary of a considerable river. About the middle of the W. shore is situated *Macquarrie* harbour, opening from the N. W. To the S. of this the coast is wild and rocky. The S. coast, taking its general outline, is the most elevated of any. The rocks at South Cape are remarkably bold. About 16 miles to the E. of this cape lies *D'Entrecastreaux's channel*, which, passing between the N. end of *Bruni island* and a peninsula from the main island, reaches a considerable way above Hobart Town, under the name of the *Derwent.* *Cape Pillar* is a striking basaltic point. To the N. of *Pirate's Bay* the land is barren, low, and sandy.

Mountains.] Van Diemen's Land consists of two ridges, with a comparatively low country in the middle. One ridge appears to stretch in the direction of Cape Grim and South Cape above 230 miles, dividing the streams that run westward from those of the Derwent and the Tamar. Snow lies upon one of the peaks of this ridge for some months of the year. The most elevated single mountain is *Table Mountain*, or *Mount Wellington*, which rises to about the height of Ben Nevis, in Scotland, and on which snow lies for about three-fourths of the year. It lies to the W. of Hobart Town. Near the west coast there are some conspicuous mountains.

Rivers.] The two principal rivers are the *Derwent*, running to the S., and the *Tamar*, running to the N. The remotest source of the Derwent is within 50 miles of the N. coast; and that of the *Macquarrie*, the most remote branch of the Tamar, is not 40 miles from the tide-way in the Derwent and *Coal* rivers. The country between the Derwent and Tamar is elevated, and contains some salt pools. The distance from the remotest source of the Derwent to Hobart Town is about 150 miles, and the river drains an extent of country amounting to nearly 12,000 square miles. The fresh water which gets the name of the Derwent is not the principal branch; the one which is as it were the main stem of the river is the *Ouse*, which rises about 40 miles from the N. coast. About the parallel of 42° S. there are numerous lakes, the largest of which, *Lake Arthur*, is 15 miles long and 5 broad. The *Clyde* and the *Jordan* are the other principal branches of the Derwent on the E. side. The *Macquarrie* is the largest branch of the Tamar, and passes through fine rich grounds. The *North Esk* and *South Esk* also flow into the Tamar.

Climate.] If the summer-heat in New South Wales be taken at 90°, that of Van Diemen's Land cannot be rated much above 70°. There are likewise none of those burning winds from the N., to which the inhabitants of Sydney are exposed, experienced here.

Vegetation.] "The natural trees of this island," says Malte Brun, "are nearly the same with those of New Holland. But no cedar, mahogany, or rose-wood has been found here. There is a species of oak, called black-wood, which, with the Huon pine, serve as good substitutes for these useful trees. The Huon pine grows in great abundance

[illegible] ISLAND

[illegible] & [illegible] Glasgow

on the rivers of Macquarrie harbour. The indigenous botany is, like that of New Holland, exceedingly scanty in articles fit for human sustenance. Labillardiere describes many new plants, remarkable for the beauty and singularity of their flowers and foliage. The sands produce a species of *plantago*, called *tricuspidatus*, which is a good salad, and one of the most useful plants that this island furnishes. In the woods of the interior a new species of *ficoides* is found, the fruit of which is eaten by the natives. Those useful plants introduced by the British, which are adapted to the latitude of the country, grow in great luxuriance. The staple crops are wheat and potatoes. Wheat may be considered the chief export of the colony; it is sent to Sydney, the Mauritius, and Rio Janeiro. The principal corn district is at Port Dalrymple, on the N.E. side of the island, 150 miles from Hobart Town. Potatoes are cultivated in the island with unbounded success; and all the choicest vegetables of an English garden are raised with great facility, and pay uncommonly well for the expense and labour of planting. The produce of fruits is equally great: English grapes have been sown with abundant success. The seed-time is a month or six weeks later than in New South Wales; though wheat may be sown in November and reaped in March.

Animals.] The native animals are few and diminutive. The kangaroo, oppossum, and wild cat, are the most numerous. The birds have fine plumage. We here find rosselle parrots, black cockatoos, quails, mountain and wild ducks, black swans, and a bird resembling the thrush, called the wattle-bird. Pheasants, partridges, snipes, and wood-cocks, have been imported alive from England for the amusement of the colonists. Captain Flinders observed to the W. of Circular Head, a stream of sooty petrels from 50 to 80 yards in depth, and 300 yards in breadth, which continued to pass, without interruption, a full hour and a half, at a rate little inferior to the swiftness of the pigeon! Some, though not all of the poisonous serpents found in New Holland, are also seen here. The wasp of Van Diemen's Land is a smaller but much more splendid insect than the English wasp; it has four orange coloured wings, and horns and legs of the same colour, a hard body, and a formidable sting. The rivers abound with mullet, perch, craw-fish, and oysters.

Minerals.] This island produces copper, iron, alum, coal, slate, limestone, asbestos, and basaltes, all in great abundance, with the exception of copper. It also affords cornelian, rock crystal, chrysolite, jasper, marble, and many petrifactions. In the neighbourhood of Launceston there are mountains of iron-ore, which must prove a source of great wealth to the island when once it is sufficiently populous. Coal also is met with in extensive beds, particularly near Macquarrie harbour.

Population.] The colonial population of Van Diemen's Land probably amounts to 25,000 souls. In the remoter settlements the blacks have proved themselves very destructive and implacable.

Commerce.] The ports of the island of Van Diemen's Land and of New South Wales are declared free ports, and placed on the same footing as respects trade with Malta and Gibraltar. The ships of all nations have now unrestricted admission into our harbours on the same footing as the British, those of the United States of America excepted, and this latter exception only so long as their non-intercourse act is unrepealed.

Hobart Town.] The situation of Hobart Town is imposing. It is built a few miles below *Mount Wellington*. In 1825 it contained 700 houses, chiefly of brick. The streets are of a good width, but unpaved, and much cut up by the constant transit of carts and cattle. The public buildings consist of a church, a court-house, governor's residence, government store house, and jail.

CHAP. III.—NEW GUINEA.

New Guinea, sometimes called *Papua*, extends between 132° and 152° E. long., and between the equator and 10° S. lat. It does not fill the whole of that space, but extends from N.W. to S.E. If the whole land be joined, it is next in size to New Holland. That it is one continued island, however, is far from being certain, since the whole has not hitherto been explored. New Guinea, from the sea, has the appearance of being a mountainous district; and is every where covered with lofty forests. Cocoa trees are abundant; nutmegs have been found in some of the neighbouring isles; the same spices, along with cloves, are supposed to be furnished by New Guinea. The scenery of the country is described by every navigator as being beautifully picturesque. Little is known of the natural history of a country so incompletely explored. Birds of paradise are said to be plentiful, with parrots and lories; and a kind of pigeon is mentioned, which is little inferior in size to a turkey.

The inhabitants appear to have little resemblance to those of New Holland. They are with more probability supposed to have proceeded from some of the neighbouring islands on the north and west. Their colour is black; and their hair, according to some, is woolly, like that of the Negroes; but this opinion may have originated from the manner in which it is dressed,—great care being taken to frizzle it, in order to give it a bulky appearance. Like the inhabitants of some of the other Asiatic islands, *the inhabitants of New Guinea—often called Papuans—have habitations raised upon stages in the water.* They deck their hair with feathers of the *bird of paradise*; and wear a comb which they often use for the purpose of frizzling their dusky locks. They make the hair, in this manner, stand in a bunch; so that a Papuan head, when dressed, is said to be three feet in circumference. Through the cartilage of the nose they pass pieces of reed or bone; and the tusks of boars are often hung round the neck. The women wear rings of brass in the left ear; but neither men nor women wear any other covering than a small piece of a kind of cloth, made of the fibres of the cocoa, around the middle. In the interior there is said to be a race of people somewhat different from the Papuans, and who are called *Haraforas*. They live in trees which they ascend by means of a notched stick which they draw up after them. The Papuans are much farther advanced in civilization than the New Hollanders. They carry on a species of traffic with the Chinese, from whom they purchase a variety of utensils. For these they give ambergris, tortoise-shell, pearls, with several of the birds furnished by the island, which the natives dry with great ingenuity. The canoes of the Papuans are called *proas;* and are described by navigators as of a singular appearance. They are managed with great skill. New Guinea is said to have been discovered by the Spaniards in 1528. Dampier afterwards explored part of the coast; and Cook discovered the strait by which it is separated from New Holland.

Netherlandish Settlement.] In May, 1828, a Netherlandish corvette anchored in the mouth of the *Doerga* river in 138° 27′ 10″ E. long, and

7° 25′ 38″ S. lat., and a party of her crew proceeded to explore the adjacent country with the intention of fixing upon an eligible site for a colony. They found the coast low and marshy at the mouth of the Doerga, and on proceeding up the stream were furiously assailed by a strong party of the natives. Discouraged by these circumstances, they quitted this river, and coasting along the northern shore of the island, arrived at the mouth of the *Tanata* river, in 136° 53′ E. long. and 4° 51′ 30″ S. lat. The expedition had been informed that this river was often visited by the natives of Ceram, but they found it altogether inaccessible to their vessel on account of a bar at its mouth. While off this point, they were visited by a party of natives who proved very friendly, and informed them of the existence of a river, affording good anchorage, farther to the W. Proceeding in the direction indicated, they reached the *Oeta* or *Oetava* river, and finally anchored in a good bay off the island of *Ardoema*. To the E. of the island of *Lokaia* the expedition found the country more inviting; lofty mountains appeared to rise in the interior, and the soil was less marshy and more elevated. Accordingly they fixed upon this quarter for their projected colony, and took possession of a district in the territory of *Lobo*, a subdivision of a larger district, or kingdom, called *Haijwaij*. To the strait which separates this part of the island from the adjacent isle of Ardoema, they gave the name of the strait of *Iris;* and a fine bay on the other side they called *Triton bay*. The territory to be occupied by the colony has received the name of *Merkus*, and a mountain in the neighbourhood has been called *Lancentisjsie*. The aboriginal inhabitants of the coasts in this quarter are a race of Papous; those of the interior are Alfoiras. The former profess Mahommedanism, and trade with the Moluccas; the latter are a less civilized race. The mountains in the neighbourhood are calcareous, and the whole country seen by the expedition appeared covered with wood. A good deal of sickness was experienced amongst the crew engaged in this expedition.

Islands in the Neighbourhood.] Of these islands, *Waijoo*—sometimes called *Wadjoo*—appears to be the most considerable. The land is lofty. *Piapis* and *Offak* are good harbours, upon the north side. The number of inhabitants is said to be 100,000. They resemble the natives of New Guinea.—*Sulwatti* is also a large island, containing many inhabitants, and governed by a rajah.—*Timorlaut* is a large island, but it has not been described.—The *Aroo* islands are five in number, and are considered as being dependent upon the Dutch islands of Banda.—The islands of *Mysori* and *Jobi*, on the north of New Guinea, are little known. The isles called *Wolcko'*, *Famia*, *Piamis*, *Wagiol*, *Lerib*, *Wiag*, and *Siang*, have been seldom visited; and are too small to merit a particular description.

CHAP. IV.—NEW ZEALAND.

THE western coast of New Zealand was discovered in 1642 by Tasman, the Dutch navigator, who, supposing it to be a continuation of the great southern continent, called it *Staatenland*, or 'the States' country.' In the following year, however, another Dutchman of the name of Brower determined the insularity of this portion of land, which induced the States-General to exchange its former appellation for that of *New Zealand*, although there was no one point of resemblance between the old and new countries; the latter being rugged, rocky, and mountainous, rising in several places to the height of the peak of Teneriffe,—the former without a rock, and as flat as the fens of Lincolnshire. A French navigator, M. de Surville, afterwards doubled the North Cape, and discovered Lauriston's Bay; and in 1779 captain Cook ascertained that the strait discovered by Tasman, and thought to separate an island on the N. from a great southern continent, only separated two islands from each other. The southern island was called by the natives *Tavi Poenammoo;* and the northern *Eaheino-mawe.* D'Entrecasteaux fixed the position of Cape Maria de Diemen; and Vancouver completed the examination of the southern island, which had been placed 40 miles too far E. in the first chart. Since that period many of our circumnavigators, South Sea whalers, and missionaries, have visited New Zealand; and an occasional intercourse has been kept up with the islands from Port Jackson, in New South Wales, from which they are distant not more than 400 leagues on the same parallel of latitude.

Extent.] The length of the northern island is 436 miles, and its medium breadth probably 60 miles. Its extent, therefore, is about 26,160 square miles, or 16,742,400 acres. The southern island, being 360 miles long, and at an average 100 broad, contains 36,000 square miles, or 23,040,000 acres. The two islands lie between 34° and 48° S. lat., and 166° and 180° E. long.

Climate.] The climate of New Zealand, and particularly of the northern island—which being the farthest from the pole, seems to possess greater natural advantages than the other—is not unlike that of the British islands, more particularly of Ireland. It is moist and temperate; the cold being seldom more intense than barely to produce a hoar-frost on the surface. The lowest point of the thermometer is 40°, and generally ranges from 50° to 60°; nor is the heat of summer so great as to destroy the verdure, there being frequent rain and cloudy weather, in which the thermometer seldom rises beyond 78°, and generally ranges between that point and 66°. Violent gales are frequent, and continually change their direction,—a circumstance ascribed by Cook to the great height of the mountains.

Productions.] Vegetation in New Zealand is uncommonly luxuriant, and the number of plants formerly unknown to Europeans is uncommonly great. The sea-coast is in many places destitute of timber; but the whole of the interior is an immense forest. The largest trees are of two kinds, one resembling our fir, the other somewhat like maple. Both grow to a very great size; and there is another tree, called the *cowry*-tree, which affords excellent timber for masts, frequently rising to the height of 100 feet without shooting out a branch. A kind of myrtle is found, the leaves of which form a tolerable substitute for tea. The mulberry-tree is sometimes seen, though not frequently. Two kinds of plants are found, which furnish the natives with a kind of flax and hemp, much superior to that cultivated in Europe. Wild celery and water-cresses are abundantly furnished by every part of the coast. Insects in New Zealand are not numerous, but they are very troublesome. Snakes and lizards sometimes attain a great size. The birds are many of them beautiful. A small green bird is almost the only one of which the note is melodious; but this bird, by the variety of his notes, seems to compensate for the scarcity of such as sing. Fowls are plentiful, and may easily be killed in great numbers. The only quadrupeds which have been discovered in this extensive region are a species of dogs and rats. The former are fed, and greedily eaten by the inhabitants. Fish of various kinds are plentiful upon every part of the coast, and form a considerable part of the food of the natives. The only mineral which has been observed, is what has been called green jad, a species of jasper, of which the New Zealanders make their hatchets and other utensils.

Inhabitants.] New Zealand appears to be thinly inhabited. The southern part is almost entirely a desert. On the western side of the northern parts, inhabitants are to be found only in a few places. The interior is mountainous, and so completely covered with trees, that the people cannot be numerous. The eastern coast of the northern island, therefore, appears to be better peopled than any other district of New Zealand; but even in this district the inhabitants are far from being numerous. The New Zealanders are of the ordinary size of Europeans. They are not unfrequently well-made; but their limbs, from their mode of sitting on their hams, are said often to want that proportion which is necessary to true symmetry. The complexion of many is fair; but, in general, it is brown,—a circumstance which may arise from their constant exposure to the weather. In the form of their features, they are not greatly different from Europeans. The face is round, the lips rather thick, and the nose round towards the point without being flat. The hair is black, coarse, and long, cut short behind, and the remainder tied in a bunch upon the top of the head. The eyes are large; and the teeth—unlike those of most savage nations—are large and irregular. The women differ little from the men, except that they are of a less stature, and have softer voices.

The ordinary dress is of the flax so plentifully produced in the country; not woven, but knotted in a peculiar manner. This garment is nearly square, being five feet in length, and generally four in breadth. It is fastened round the shoulders by the two corners, and round the middle by a girdle. Over this many wear a large mantle extending from the shoulders to the heels. These garments are frequently covered with dog-skins, and sometimes ornamented with large feathers. A more simple covering, and one which is not uncommon, consists of a kind of plant, woven in a particular way, tied round the neck with a string, and suffered to fall down to the middle of the thigh. The dress of both sexes is the same. Their ornaments are feathers upon the head, with combs and pearl shells. The ears are almost universally perforated, and adorned with beads, pieces of jasper, and sometimes with pieces of cloth. Tattooing is practised, and the figures thus formed have frequently a very fantastic appearance. The females adorn their necks with strings of sharks' teeth, or of a peculiar kind of berries.

Their habitations are constructed of frames of wood bound together and covered with bark, and such other materials are most easily procured. They are of different dimensions, according to the number to be accommodated; and of different degrees of durability, according to the time during which the inhabitants propose to remain in one spot. Besides those habitations which serve for ordinary use, the New Zealanders have more substantial abodes, upon such situations as are elevated and of difficult access, and which are always fortified. The fortifications commonly consist of a ditch, a mound, and palisades. These abodes are called *hippahs;* but they seem to be inhabited only when the people suspect themselves to be in danger of attack. When no such danger exists, the New Zealanders quit the remote hippah, and repair to the level country upon the coasts, where the chief part of their subsistence is procured.

Fish, which, as has just been mentioned, form their principal food, are caught in various ways. Sometimes they use nets, and sometimes hooks pointed with bone, of which the latter to the eyes of a European appear to be altogether unfit for the intended purpose; but such is their dexterity, that the Europeans who visited them, with all their supposed superiority of instruments, could never equal them in the art of angling. The process of preparing food by boiling is said to be altogether unknown. Their fish are dressed by roasting, or sometimes by baking. Fern root is used for bread. Water is the only drink. From what has been said, it appears that agriculture is not entirely unknown. It seems to be practised, however, *only in the northern parts of the northern island*; that is, in the warmest, and consequently the most fertile part. The ground appears to be dressed with considerable care. The plantations were of different sizes, from one acre to ten. The New Zealanders generally enjoy excellent health; their diseases are few, and their wounds are easily healed. Their language is radically the same as the Tahitian. Their numbers are thought to exceed 500,000.

The character of these islanders is fierce and warlike. They are divided into various tribes, which the extent of the country permits to remain in situations entirely separate. These tribes are thus induced to consider each other as strangers, and upon the slightest injury, the stranger is converted into an enemy. When hostilities and feuds have been commenced, they are scarcely ever extinguished. Each considers himself as concerned in whatever injury is sustained by any of his tribe; and a state of war becomes perpetual. We are compelled by irresistible evidence, supported by a mass of facts, to admit that the New Zealanders are cannibals. As they are savage and ferocious in the extreme, when provoked and insulted by strangers, the masters of vessels visiting the coast for occasional refreshments, should act with the utmost caution and vigilance in all their intercourse with them. Europeans, however, have generally themselves to blame for exciting these savages to acts of ferocity. What can the master of a vessel, who cheats and steals their property, and inflicts corporal punishment upon them, rationally expect? If men, calling themselves Christians, retaliate on very trifling provocations, can we expect the New Zealanders tamely to submit to have their pigs, their potatoes, wood, and flax, swindled from them by Europeans? These nefarious practices have, in many cases, been visited on the heads of the perpetrators; but, in others, on the innocent and honest, who have suffered severely for the crimes committed by their unprincipled countrymen. Captain Cruse states, that though the New Zealanders make no scruple of thieving any thing they can conceal when they are on board our ships, still, when the European goes among them and commits himself and his property to their protection, he may place implicit confidence in their honesty and honour.

The Church of England Missionary Society have established a mission at the Bay of Islands, near the northern extremity of these islands. The climate, soil, harbours, flax, and timber of New Zealand, are strong inducements to attempt the formation of a British colony in this island. The whole of the northern part of New Zealand, and much of the southern likewise, is admirably adapted for the growth of every kind of grain; in fact, there is scarcely any production, that can stimulate man to exertion, by rewarding his industry, which this country with moderate labour would not furnish. The timber of its extensive forests finds, at this time, a quick sale in the market of Port Jackson, where it is cut up into scantling, and preferred to the timber of that place, which, from its hardness, is difficult to be worked. The South American colonies, and the Indian market, are likewise open for masts, spars, &c. The fisheries of this country would be an invaluable source of wealth themselves. The ursine seal and sea bear are found in congregated herds to the southward; the valuable furs of these animals are now become an article of commerce, and might be almost monopolized by New Zealand settlers. The singular species of the flax plant, with which New Zealand abounds, would form another very considerable resource, of which the colonist might avail himself. The security of the colony would entirely depend upon the settlers themselves: for, by conducting themselves towards these people in a kind and conciliatory manner, they might easily secure their attachment, and prevent their suspicions; but if, by adopting a contrary demeanour, they should provoke their resentment, the very worst consequences might follow.

Adjacent Islands.] *Snares Island, Lord Auckland's Group*, and *Macquarrie Island*, to the south of New Zealand, show the continuation of the same chain of mountains under water, by which that country is pervaded.

There is another well-marked chain to the east of New Zealand, and nearly parallel to it, formed of the *Bristol, Penantipodes, Bounty*, and *Chatham Islands*. Chatham Island, which is the largest, was discovered by Broughton. It is about 33 miles long. The surface has a gradual rise, so as to form pleasant looking hills in the interior. It seems to contain one of those lagoons which occur so frequently in the low islands of this ocean. Vegetation, according to Broughton, is powerful in this island, but the trees are only of middling height. For a certain way up the trunk they are naked, and no brushwood grows among them. There is one tree similar to the bay, and another jointed like the vine. The inhabitants were observed to use much thread and cord made of a fine hemp, which undoubtedly is of the growth of the island. The inhabitants are of middling stature, stout and well proportioned. They have dark-brown complexions and expressive features. The hair of their heads and beards is black; no tattooing was observed about any part of their bodies. Their dress consisted of a seal skin, and a curiously wrought mat. The birds are of the same species which are seen at Dusky bay in New Zealand, and were remarked to be, like them, wonderfully familiar, and not the least afraid of men, an evidence that they suffer no molestation.

Nederlandich Island.] Two vessels, in the service of the king of the Netherlands have lately crossed the Pacific. After leaving *De Peyster's* and *Sherson's Islands* one degree to the north and south, on the 14th July, 1825, at 5 A.M., after a very hazy and rainy night, it was presumed that land was to be seen a-head, but very indistinctly; and shortly after the breakers were distinctly heard. After sunrise, they discovered a very low island, bearing W. by S., two miles distant (miles of 60 to a degree.) The land appeared well-stocked with cocoa and other trees. Though the sky was very clear, no other islands were seen at the same time. The name of *Nederlandich Island* was given to this new land. Its north point is in lat. 70° 10′ S., and the centre of it in longitude 177° 33′ 16″ E. from Greenwich; the variation of the magnetic needle being 7° to the east. This island has a form resembling a horse shoe; its extent is about 8 miles The land had a pleasing aspect, and appeared fertile. The number of natives assembled on shore was estimated at about 300. They were of a dark copper hue, tall and well-made. Few were less than six feet Rhinland measure, or 6.156 English. The women were also very stout. Some of the people were tattooed. They were naked, except some covering made of leaves. A few others had some cloth of cocoa bark wrapped round the waist. The heads of some were adorned with feathers. Their conduct appeared very fierce and wild, and they contrived to steal whatever they thought within their reach. The boat-hooks soon disappeared, and they even attempted to tear the oars from the hands of the boat's crew. An old man, with a white beard, and of respectable appearance, carrying a green bough in his hand, was at their head. He continually kept singing some monotonous song, in a melancholy tune. They bartered some cocoa-nuts, and some of their tools, against some old handkerchiefs and empty bottles; and it appeared that their language had some resemblance with that spoken at Nukahiwa.

CHAP. V.—NEW CALEDONIA.

NEW Caledonia, extending from 19° 37′ to 22° 30′ S. lat., and from 163° 37′ to 167° 14′ E. long., is in length 240 miles, but in breadth no more than 30 miles. This island is in general mountainous. The north-eastern part appears to be flat, and is well cultivated by the inhabitants. In general the land has a bleak and barren appearance,—the higher parts seeming to be totally incapable of cultivation. The soil is generally thin and scorched by the sun. Its whole appearance has some resemblance to that of many parts of New South Wales, or the eastern shore of New Holland. The plants are not numerous; but a few are of a species which have not been seen in other places. The bread-fruit appears to be indigenous. A few plantains, sugar-canes, and cocoas are found in different districts. Musquitoes are numerous and troublesome. Birds are plentiful, and many of them appear to be peculiar to the island. Of the fish upon the coast, some are poisonous. Turtles are plentiful; but quadrupeds seem to be almost entirely unknown, as the inhabitants have no name for either goats, dogs, or cats.

The inhabitants of New Caledonia are tall and well-proportioned. Their beards and hair are black; their colour swarthy, inclining to brown. Sometimes the hair is tied in a bunch upon the crown of the head; and sometimes in two bunches, one on each side of the head; sometimes it is cut short. A kind of cylindrical cap is worn by the chiefs. The only covering worn by the men is a piece of brown cloth formed of the bark of a tree, fastened to a girdle which passes round the waist. This cloth is sometimes permitted to hang down before; at other times it is tucked up between the legs and fastened to the girdle behind. The women are more completely covered, wearing on the middle a kind of petticoat formed of a great number of filaments, which reach a considerable way down the thigh. They take care of the domestic concerns, and superintend the culture of the ground, while their husbands are employed in hunting or fishing. They appear to be of an affable disposition, and to have acquired an esteem for honesty, as they have not been accused of an inclination to steal. Their houses are round, the frame being formed of reeds and spars, covered on all sides with long grass. The entrance is just large enough to permit a man to creep into it; and as it serves at the same time for a chimney, the heat and smoke are to a stranger altogether intolerable. The canoes are clumsy, being of a peculiar construction. Two of them are generally fastened together by a kind of platform. Their arms are spears, darts, slings, and a kind of club or tomahawk; bows and arrows are unknown.

The language of New Caledonia is totally dissimilar to that spoken in any of the islands of the Pacific.

The islands in the neighbourhood of New Caledonia are,

Isle of Pines, . . .	22° 38 S.	167° 38 E.
Botany Island, . . .	22° 26′ S.	167° 16′ E.
Norfolk Island, . . .	29° 4′ S.	168° 12′ E.

Norfolk Island was formed into a settlement for convicts, subordinate to that at Port Jackson. The settlement is abandoned, and the island now uninhabited.

CHAP. VI.—NEW HEBRIDES.

THIS group of islands, some of which are of considerable magnitude, lies between the parallels of 14° 10′ and 20° S. lat.

When these islands were first discovered by Quiros, in 1606, they were supposed to be a part of a great southern continent which philosophers then imagined to exist. Bougainville discovered that Terra del Espiritu Santo was no part of a continent, but one of a group of islands; and Cook, in 1774, exploring the whole cluster, gave them the name of the New Hebrides. They are in general mountainous; but are well-wooded, and abound with water. Sugar-canes and yams are found upon them in great plenty; but the cocoas, bread-fruit, and plantains, are neither in so great perfection, nor so plentiful, as in some of the other islands of the Pacific. According to the survey of our great navigator, they consist of, *Terra del Espiritu Santo,* the largest, *Mallicollo, St Bartholomew, Isle of Lepers, Aurora, Whitsuntide, Amboyn, Apie, Three Hills, Sandwich, Montague, Hinchinbrock, Erromango, Emmer, Annatom,* and *Tanna.*

The two which are more particularly described are Mallicollo and Tanna, the natives of which differ remarkably in their persons and language; those of the latter having curly but long hair, dark but not black, and without any thing of the Negro character in their features, which are regular and agreeable; their persons are slender, active, and nimble. They were found hospitable, civil, and good natured; but displayed a jealousy of their visitors seeing the interior of the island, which would only be equalled in Japan or China. All the plantations were fenced, and laid out in a line: they consisted of sugar-canes, yams, plantains, bread-fruit, &c. The yams are remarkably fine, one of which weighed 56 lb. every ounce of which was good. Pigs and poultry were abundant. The juice of the cocoa nut and water appeared to be their only beverage. Their arms were clubs, darts, lances, bows and arrows. Their canoes, clumsily sewed together, had out-riggers, and were worked by paddles and by sails. The men wore a wrapper round the loins, and the women a sort of petticoat reaching to the knee. The natives of Mallicollo are called by Cook, "an ape-like nation;" he describes them as the most ugly, ill proportioned people he ever met with; diminutive in their persons,—dark coloured,—with black hair, short and curly, but not so woolly as a Negro's,—long heads, flat faces, and monkey countenances; while a belt round the waist pulled tight across the belly, made them look not unlike overgrown pismires! The women were equally ugly. The dress of both, in other respects, was the same as that of Tanna, as were all the productions of the island. Their houses were low, and covered with palm-thatch.

Islands seen by Quiros.] "Ten or twelve islands," says Malte Brun, "remain to be found again which were discovered by Quiros, after quitting the island of Tau-maco, and before arriving at Terra del Spirito Santo. But it is not easy to convert his vague calculations of longitude into actual degrees. The discussion of the different explanations of them which have been given, and which might be given, would require a long memoir, or rather a monographic treatise. If *Rotumah* island is *Taumaco*, the islands of *Tucopia, San Marcos, Vergel*, and others, will correspond tolerably well to *Pandora, Cherry*, and *Barvel islands*, and *Banks' Group*, lately discovered by Captain Edwards, on the N.E. of Terra del Spirito Santo. The description of *Pitt's Island*, which is high and wooded, corresponds to that of the *Gate of Belen*. Coming south to 14° 30′ of latitude, Quiros discovered an island which he called *Nuestra Sennora de Luz;* and, immediately after, he saw to the south, the south-east, and the west, several high and extensive lands, in one of which he discovered the *Bay of St Philip* and *St James.* We can easily see the position in which every navigator must find himself, who, after having passed the Pic d'Etoile, enters the channel surrounded on the one hand by the islands of Terra del Spirito Santo and Mallicollo, and on the other, by Aurora and Whitsuntide islands. Another account, which says nothing of Nuestra Sennora, or Pic d' Etoile, makes up for the defect by an express proof that the Great Cyclades of Bougainville had been seen and named by this navigator; for he found at seventeen degrees of latitude, and only seven leagues from Terra del Spirito Santo, the two islands of *Cordova* and *Clementina*, which seem to be the same as *Aurora* and *Whitsuntide* islands. In short, the island of Belen, and that which is called the *Pillar of Saragossa*, towards which the north-east wind drove the fleet, after leaving the bay of St Philip, must belong to a chain which connects the New Hebrides with Solomon's Islands."

CHAP. VII.—THE SOLOMON ISLANDS.

THESE islands, situated chiefly between 5° and 10° S. lat. and 155° and 160° E. long., were discovered, in 1567, by Alvaro de Mendana, who computed their number to be eighteen, and declared the inhabitants cannibals. They appear to have almost been forgotten till 1767, when they were touched at by M. de Surville, who had an unfortunate rencounter with the natives. They have been recognised, but not completely surveyed, by later navigators. The largest are *Ysabel, Guadalcanar, San Cristoval*, and an island called by lieutenant Shortland *New Georgia*. Bougainville's islands on the west, probably belong to the group. A great variety of vegetables grow on these islands, and wild boars are common in the woods. Birds, such as loories, cockatoos, &c. with aquatic fowl of all kinds, are seen in prodigious numbers. Snakes abound, with ants of large size, and many uncommon insects. The inhabitants—who are evidently of different races, some black with woolly heads, some copper coloured with black hair—tattoo their bodies, wear rings in their ears and nose, and, but for a scanty girdle round the waist, go entirely naked. Their arms are the bow and arrows, spears and clubs, and they appear to live in a state of continual warfare. Their canoes—unlike those of most savage nations—are skilfully constructed of pieces joined together, the head and stern very high, and ornamented with mother of pearl. One of the largest measured 56 feet long, by 3½ broad, and voyages of ten and twelve days are frequently performed in them. Of their government, religion, and customs, nothing certain is known. Their conduct to Europeans has only been marked by aversion and treachery. The Astrolabe, commanded by M. de la Perouse, and the Borissale, M. de l'Anglo, were wrecked on the S.W. side of *Vanicolo*, or *Manicolo*, one of the Solomon group. One stormy dismal night, the oldest natives state, the vessels were blown upon a reef. One was a complete wreck by day-light, and all hands perished. From the other, however, some of the crew managed to effect a landing, when many of them were massacred as they gained the shore, the natives taking them for white spirits, with long noses, their cocked hats being considered a part of the face! As soon as the unfortunate mariners were proved to be human beings, those that had escaped death from the waves and the savages, were allowed to remain unmolested. A small vessel was built from the wrecks, and as soon as the bark was ready, the survivors, with the exception of two, left Manicolo, and have never been heard of since.

CHAP. VIII.—NEW BRITAIN, NEW IRELAND, ADMIRALTY, AND EXCHEQUER ISLANDS, &c.

The extent of the *New Britain* and *New Ireland* groups is not exactly known; nor have they been sufficiently explored, to enable geographers to lay them down with accuracy, or even to state their numbers. One of considerable extent which has been named *New Hanover*, and is surrounded by low woody islands, lies off the N.W. end of New Ireland. The whole group occupies a space between 2° 30′ and 6° S. lat., and 149° and 150° E. long., and may probably contain an area of 10,000 geographical square miles. The natives of New Britain and New Ireland are black, with woolly hair; but their lips are not thick, nor their noses flat; their cheeks are streaked with white, and they cover their hair and beards with a white powder. Their canoes are long and narrow, some of them measuring 90 feet, and formed out of a single tree. The two large islands, and the whole group in fact, are covered with wood. The coasts are skirted with thick groves of cocoa-nut trees. Labillardiere says, that New Ireland produces nutmegs, and a new species of the areca palm, 108 feet high.

The natives of the *Admiralty Islands*, lying to the N.W. of New Ireland, are less black than those of New Britain and Ireland, and of large stature, with agreeable countenances, not unlike Europeans; their hair is curly, smeared with oil and red ochre; and their bodies and faces painted. The men cover their nakedness with a shell; the women wear a bandage round the waist. The central island is tolerably large, clothed with the most luxuriant verdure, and cultivated to its very summit. The natives have attained to a higher degree of civilization than many of their neighbours; they use earthen vessels, and chew the betel leaf with chunam or lime.

To the westward and north-west are the *Exchequer Islands;* which consist of a large central island, surrounded by a chain of islets and reefs, most of them covered with beautiful verdure. The natives of these groups, as they approach the equator, gradually assume a lighter colour, and longer hair, till they lose entirely the Negro character, and melt into that of the Malays, and other Asiatic islanders.

CHAP. IX.—THE CAROLINES.

These islands, sometimes called *Palaos*, and sometimes *New Philippines*, and said to be in number about thirty, lie between 6° and 10° N. lat., and 136° and 156° E. long., but are little known to Europeans. The largest is *Hogolew*, which is situated in the eastern extremity of the group. Its length is about 90 miles, and its breadth about 40 miles. *Yap*, in the western extremity, is the next in size, and is about two-thirds less. The others are very small. The inhabitants are said to resemble those of the Philippines, but nothing is known with certainty respecting them.

CHAP. X.—THE PELEW ISLANDS.

The Pelew Islands form a small cluster, not considerable for their size, but rendered very remarkable by the character of their inhabitants. These islands are situated between 6° 54′ and 8° 12′ N. lat., and between 134° 5′ and 136° 40′ E. long. They are about 10 in number, but little is known of any of them—except of the chief of them—sometimes called *Pelew*, from its capital, and sometimes *Cooroorua*, the name by which it appears to be distinguished by the natives. It is very mountainous, but not without many extensive valleys of peculiar beauty. No river was seen by the British, who for some time remained upon it,—the water being obtained from small streams with which the country abounds, and from small ponds formed for the purpose of retaining it. The soil is fertile; producing in great abundance, and in much perfection, many species of plants. Ebony trees are found in the woods, with several other kinds of unknown species; among these, one, when pierced, yields a liquor resembling cream; and of another, resembling a cherry-tree, the wood is nearly of the colour of mahogany, and so hard as scarcely to be penetrable by any common weapon. Cabbage-trees, bread-fruit-trees, and a tree producing a fruit like an almond, are frequent. No kind of grain is cultivated; yams and cocoa-nuts are the principal objects of agriculture, and afford the chief part of the sustenance of the inhabitants. Plantains, bananas, Seville oranges, and lemons are found, but the quantity is inconsiderable. A few rats of a gray colour appear to be the only quadrupeds. Pigeons and domestic fowl are common; but of the latter the inhabitants made no use till they learnt from the British that they afforded excellent food. To feed on pigeons, is the privilege of a certain rank.

It may in general be affirmed, that the Pelew islands are populous. The natives are described as being of the middle size, and well-made; their colour is brown, with a tinge of red, so as to resemble that of copper. The hair is soft, black, and long; and is worn rolled up in a graceful manner to the back of the head. Beards are seldom seen among them; great care being taken to eradicate such hairs as appear on the chin. The men are said to go absolutely naked; but the women wear a piece of cloth before, and another behind. Their chief decoration seems to consist in tattooing, which, from the middle of the thigh to a little above the ankle, is crowded so thick, as to give that part of the body a darker appearance than the rest.

The houses are raised upon stones, about three feet from the ground, and have the appearance of the roof of a barn, thatched with bamboos or palm leaves. The inside forms only one apartment, without any division. Fish appears to constitute the chief part of their food; to which are added yams and cocoas. Salt is unknown, and they are equally ignorant of seasoning of every kind. They generally drink the milk of the cocoa, though sometimes they use a kind of sherbet, to which is added the juice of the orange. Their canoes, their arms, and their domestic utensils, have a close resemblance to those of the inhabitants of the other islands of the Pacific. Polygamy is permitted, though few are said to have more than two wives; and probably not many have more than one. The funeral ceremonies are performed chiefly by women. They attend the corpse to the place of interment; and make loud lamentations for the deceased, while the men take their last view with a manly silence. Certain places are appointed for the reception of the dead, and are said to have no inconsiderable resemblance of a country church-yard in Europe.

At Pelew, the king was the first person in the government; he appeared to be considered as the father of his people, and though divested of all external decorations of royalty, had every mark of distinction paid to his person. His chiefs approached him with the greatest respect; and his common subjects, whenever they passed near him, or had occasion to address him, put their hands behind them, and crouched towards the ground; even if they were passing any house or place where the king was supposed to be, they demeaned themselves in the same manner till they got beyond his probable presence, when they resumed their usual way of walking. This personage, however great he was held at Pelew, was not understood to possess a sovereignty over all the islands which came within their knowledge. The law of succession to the sovereignty, is of a peculiar kind. The king's brothers all succeed him in their turns; and, after their decease, the crown reverts to his eldest son, and again descends among the brothers. This, it is supposed, in a great measure frees the government from the danger of a minority. The king is considered as the general proprietor of the soil. Each has a right to what he cultivates, as long as he continues to do so; but when he, for any reason, abandons it, or ceases to labour it in the proper manner, it reverts to the sovereign, who bestows it on another, to be held by the same tenure. The nobles—called *rupacks*—are of different ranks, distinguished by different ornaments of bone, bestowed by the king, and worn upon the wrist. Each of these nobles has a certain number of attendants, whom he leads out to support his sovereign, when engaged in war. The art of conveying ideas by written characters, is wholly unknown, but they use knotted strings, resembling the quipoes of the Peruvians.

If the Pelew Islands had been seen by any Europeans, they were not particularly described till 1783, when captain Wilson in a packet belonging to the East India company, was wrecked upon *Oroolong*, one of the principal of them; and being obliged to remain there for some time, collected materials for an ample account of them. From the behaviour of the natives, it may very safely be inferred, that they were totally unacquainted with the other parts of the universe, and with their inhabitants. They examined the bodies of the Europeans with great care; and, at first, imagined that the dress formed part of the person. The whiteness of the hands and face they believed to be artificial, and the blueness of the veins they supposed to be a peculiar mode of tattooing. While the British remained upon the island, they conceived the greatest esteem for the natives, which was returned with no less affection. This esteem was on both sides testified by the most unequivocal marks. One of the seamen, at his own request, was left on the island; and the king sent Lee Boo, his son, to Britain, that he might see the wonders of a new world, and learn the arts and the virtues of Europeans. This young prince, who evinced the most amiable and teachable disposition fell a victim to the small-pox in Britain. In return for the kindness shown by Abba Thulle, the prince of Pelew, to captain Wilson and the crew of the Antelope, wrecked on the coast in 1783, as above stated, the East India company, in 1791, sent him a present of live stock, which had greatly increased, in 1802, with the exception of the sheep, which had failed. At that time several Europeans resided on the islands for the purpose of collecting *biche de mar*, tortoise shell, and shark's fins, for the China market.

CHAP. XI.—THE LADRONES.

The Ladrones, sometimes called the *Marian*-islands, are situated between 11° and 21° N. lat., and nearly upon the meridian of 140° E. long. The group contains a great number of small islands, with a few of greater importance. These islands, in general, seem to have a considerable resemblance to the Philippines. They are said to have been originally totally destitute of quadrupeds, and, what is much less credible, they are said to have had only one species of birds, resembling the turtle dove. The inhabitants are described as having a considerable resemblance to those of the Philippines, from which they probably at first proceeded. Their stature is not diminutive; their proportion is elegant, and their complexion olive. The men are said to go naked, but the women are covered. The chief part of their artificial decoration consists in blackening the teeth, and dying the hair white. The men, like the Chinese, shave their heads, except a single lock upon the crown. The women wear the hair long. The chief part of their food consists of vegetables and fish: notwithstanding which they are frequently corpulent, and live to a great age. The language has a resemblance to one of those spoken in the Philippines, which confirms the supposition of a common origin. They have among them a kind of rude poetry in which they take so much pleasure, that they esteem a poet as being the most respectable of all characters. The Ladrone Islands are the resort of pirates who infest the mouth of the Canton river, and have long set the whole naval power of the Chinese at defiance.

CHAP. XII.—PITCAIRN'S ISLAND.

The real position of this island has been ascertained to be far distant from that in which it is usually laid down in charts; its true bearings being 25° 4′ S. and 130° 25′ W. It is about 6 miles long by 3 broad; covered with wood, and the soil very rich. In the midst of a wide expanse of ocean, its climate is fine, and admirably adapted for the reception of all the vegetable productions of every part of the globe. It is abundant in yams, plantains, hogs, goats, and fowls: but affords no shelter for a ship, or vessel of any description; neither could a ship water at it without great difficulty. It is completely iron-bound, with rocky shores; and landing in boats is at all times difficult, although safe to approach within a short distance in a ship. This island has been discovered to be peopled by the offspring of the mutineers of the Bounty, and their Otaheitean wives; being a half-breed of British. The colony consists of about 50 persons, mostly grown up young people, besides a number of infants. The young men, all born on the island, are very athletic, and of the finest forms, their countenances open and pleasing; the young women, tall and beautifully formed, their faces beaming with smiles and good humour, but wearing a degree of modesty and bashfulness, that would do honour to the most virtuous nation on earth; their teeth are regular and beautiful, and all of them, both male and female, have the most marked English features. The dress of the females is light and neat. Their habitations are extremely neat; but what is most gratifying of all, is their simple and unaffected piety. They never fail to say grace before and after meals, and to pray every morning at sun-rise; and the sabbath they strictly observe as a day of rest and prayer. For all this they appear, under God, to have been indebted to John Adams, *alias* Alexander Smith; who, having become truly penitent, exerted himself, in promoting to the utmost of his ability and means, religion and morality in this infant-colony, of which he was the father and patriarch. He would gladly have come to England to take his trial for the mutiny, but it was not thought expedient to take him away from the island, in which he appeared to be so usefully employed, and which seems to depend so particularly upon his fatherly attentions.

CHAP. XIII.—THE FRIENDLY ISLANDS.

The following are the principal Friendly islands, properly so called:—

	Lat.	*Lon.*	*Circumf. in m.*
Tongataboo, . .	21° 9′ S.	174° 46 W.	60
Eooa, . . .	21 24 S.	174 30 W.	30
Annamooka, . .	20 S.	173 E.	
Hapaee, four islands.			

Besides these, among the Friendly isles may be classed the *Feejee Isles*, and the *Isles of Navigators*, of which the chief appear to be *Pola*, *Oyalava*, *Maouna* and *Opoun*, and a number of other islands, amounting altogether to nearly 200.

Tongataboo is said to be nearly of an equal height, never rising more than from 60 to 80 feet above the level of the sea. The southern shore consists of coral rocks; and upon the northern coast are many shoals and islands; but among them is found the best harbour afforded by the island. The whole is carefully cultivated, laid out in regular plantations, and intersected by innumerable roads. The only quadrupeds beside hogs are a few rats, and some dogs, which are not natives of the place, but produced by some left by Captain Cook, in the year 1773, and by others got from Feejee. The cattle left by Captain Cook were all destroyed after he left the island. Tongataboo is the seat of government for the whole surrounding group. The inhabitants differ not from those of Eooa, called *Middleburgh* by Tasman, who discovered it in 1642: it is not so completely cultivated as Tongataboo; the interior in some places remaining in a state of nature. In every place near the shore, however, the cultivation is complete, and the appearance of the whole is highly beautiful. The soil is in general a reddish clay. The produce is yams, bananas, bread-fruit, the pepper tree, and many other species, of which some are little known to Europeans.

The inhabitants of the Friendly islands are seldom below the middle statute, and frequently above it. They are well-proportioned, and, from frequent exercise, extremely muscular. Their complexion is a kind of brown,—frequently not more dark than olive,—and sometimes, especially among the females, approaching to fair. Their features, without being regular, are extremely mild and pleasing. The hair is black. The women are of a stature inferior to that of the men; their form is more delicate; and their hands and fingers are formed with an elegance not often seen among civilized nations.

The principal part of the dress, except in the fineness of the material, is the same in all ranks among both sexes, and consists of a large piece of matting wrapped round the middle, in the form of a petticoat. Tattooing is universally practised, except by the chiefs, whose bodies are not punctured. Head-dresses of different forms are worn by both sexes. The most common ornaments are necklaces, made sometimes of a kind of flowers, sometimes of shells, and sometimes of sharks' teeth. A polished mother-of-pearl shell often hangs upon the breast. A ring of the same substance is worn on the arm; bracelets of tortoise-shell are worn on the wrists, and many rings upon the fingers. The ears are perforated, and are decorated with different kinds of ornaments, of which the chief appear to be pieces of ivory. Almost every individual wants the little finger, from one or from both hands, which seems to be owing to their mode of expressing their grief for the dead. Cleanliness of person seems to be universally prevalent. They frequently bathe themselves in fresh water. If they are obliged to bathe in the sea, they are careful, with a little fresh water, to wash the salt from their skins. The oil of the cocoa-nut is used to make the skin smooth and soft, and for this reason is highly esteemed.

The houses resemble the roof of a cottage, supported upon posts. The floor is raised above the surface of the earth. It is covered with matting, and is always clean. Matting is also made use of for closing up that side from which the wind may blow, the other sides being left open. A small space, separated from the other parts of the house by a mat, serves as a bed for the master and mistress of the family. Their arms are clubs, and spears, with bows of a peculiar construction. These are all formed with the utmost neatness; but the greatest share of their labour seems to be applied to their clubs, which are of various forms, and are ingeniously ornamented. Their canoes are formed with ingenuity, and are dexterously navigated. Their tools are hatchets or adzes made of a kind of black stone, a boring instrument formed of a shark's tooth, and a rasp or file made of a rough skin. They form a cordage of the fibres by which the cocoa-nut is covered; which, besides being strong, has a neat appearance. Their hooks are formed of pearl shells. The occupations of the women are entirely domestic. They make mats of a beautiful construction; form little baskets, beads, and combs; and superintend whatever is done in the family hut. To the men are committed the more laborious occupations of agriculture, in which their skill seems to be considerable, the building of their houses, the construction of their canoes, and fishing.

The chief part of their food is vegetable, and consists of yams, plantains, bread-fruit, and cocoa-nuts. The lower ranks eat rats. Hogs and fowls seem to be eaten only by those of a superior station. Of their fruits they make several agreeable dishes. The common mode of dressing their food is by baking. Plantain leaves serve the purpose of plates. The women eat with the men; but several of the different ranks can neither eat nor drink together. Dancing, singing, and some kinds of instrumental music, seem to be their chief amusements. The dancing of the men is performed with extraordinary agility, and no small share of grace. The singing and music are chiefly executed by the females. Funeral rites are celebrated with considerable care. When a person of consequence dies, he is, by women appointed for that purpose, washed, dressed, and decorated with his finest ornaments: the body is thus interred, and the grief of the surviving friends is expressed in the most lively manner, by their wounding themselves, in different parts of the body, with various instruments.

Their religion is gross idolatry, and they are the slaves of a superstition the most debasing. Human victims are immolated on their altars; and cannibalism exists amongst them. Christian missionaries were, a number of years ago, landed upon these islands by the liberality of the British public; but they were murdered by the miserable inhabitants, instigated by the insinuations of a wretch named Morgan, who had made his escape from Botany Bay, and taken up his residence among them. A more recent mission has also failed. They are governed by a king, who has under him many chiefs, all of whom are despotic in their respective districts. The lower classes enjoy little of that freedom to which rude nations are for the most part so much attached; their property, and even their lives, depending entirely on the will of their superiors. To speak to the king standing is the greatest rudeness; his suppliants, therefore, sit down before they address him; and when he walks out, whoever meets him must sit down till he has passed. The inhabitants appear to preserve an exact traditionary record of their history, distinguishing its various periods by the princes who have reigned. Their language is radically the same with that spoken in New Zealand and in the Society islands.

Annamooka.] This island, discovered by Tasman, and by him called *Rotterdam*, has an appearance similar to those already described. It is, for the most part, well-cultivated, and produces yams, plantains, cocoas, and bread-fruit, in abundance. The enclosures here, as in the other islands, are of reeds. Private property is here exactly ascertained. In other respects, the character, manners, and customs of the inhabitants are not different from those of the other islands.

Hapaee Islands.] These islands are four, or more, in number, N. and N. E. of Annamooka, and are nearly of an equal size, being in length about 6 or 7 miles, They are all low, but fertile and well-cultivated. The produce is in no respect different from that of the neighbouring islands.

Feejee Islands.] The Feejee or *Fidjee* archipelago was recently traversed by the French corvette l'Astrolabe, commanded by Captain Dumont D'Urville, who found 100 islets erroneously placed in the charts, and 20 others wholly unknown. They are almost all fertile, producing fruits and roots, with the addition of sandal wood, which is here very plentiful. The stature and appearance of the Feejeeans is superior to those of the neighbouring islanders; their complexion is darker, and their hair approaches more to a woolly texture. They are a ferocious race, greatly dreaded by their neighbours, and are cannibals. Whether it be in this way that the inhabitants have become adepts in anatomy we shall not determine;

but these islands are considered an excellent school of surgery, and supply with practitioners all the neighbouring islands. They possess, indeed, an admitted superiority over all their neighbours in the arts necessary to their rude state; their arms are more neatly fashioned, their canoes of better workmanship, and they are far more industrious in their habits. They supply the Friendly islands with the feathers of the red paroquet, vessels of earthen-ware, stone for their hatchets, and all their cutting instruments, besides sandal wood. Of the government of these islands we can give no certain account; some of them have been supposed subject to Tongataboo, but upon what authority we have not been able to discover.

Islands of Navigators.[8]] These are a cluster of islands situated between 160° and 172° W. long., and from lat. 13° 25′, to an uncertain extent, southward; some of them remarkable for extent, fertility, and population. They are all lofty like the Society islands; but are neither surrounded with a low border, nor enclosed by reefs. The eastermost islands of the cluster were discovered in 1722, by Roggewein and Bauman; another of superior magnitude was added, in 1768, by Bougainville; and the two westermost, which are the most considerable, in 1787, by Perouse. Each of the latter is more than 40 miles in length. Perouse was informed of three others, to the southward, but he could not fall in with them. Hogs, dogs, fowls, and fish, abound in these islands. They are covered with cocoa trees, guanas, and plantains, and with a tree producing a large kind of almond, which is eaten roasted. The sugar-cane grows spontaneously on the banks of the rivers; but it is watery and less sweet than in the West Indies. The inhabitants are strong, well-formed, and generally from 5 feet 9 to 5 feet 11 inches in height. Their bodies are painted, or tattooed, so that they appear to be clothed, though they are almost naked, having nothing in the way of covering but a girdle of sea-weed round the loins, which reaches to their knees, and gives them a resemblance to the river-gods of mythology, that are represented as enveloped in reeds. Their hair they wear very long, and frequently turned up all round the head, so as to heighten the natural ferocity of their countenances, which seem incapable of any expression, save that of astonishment or rage. The least dispute among them is followed by blows from clubs, sticks, or paddles; and almost all of them are covered with scars, the consequence of this unhappy propensity to quarrelling. The women are tall, slender, and graceful in their appearance, but their manners are disgustingly profligate and indecent. The vegetable produce of these islands, being all spontaneous the inhabitants know nothing of labour comparatively speaking; nor do they appear at all solicitous of improvement. The iron tools offered them by their European visitors, in exchange for their own commodities, they rejected with disdain. With adzes made of a very fine and compact basaltes, however, they finish works in wood with a polish equal to the finest varnish. They also manufacture a species of cloth, possessing great strength and pliability, so much superior to the paper cloth of the Society and Friendly islands, that it is well adapted to sails of their canoes.

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[8] They have been called Navigators' islands, from the inhabitants being almost perpetually on the water, but with no great propriety, as this is a circumstance common to all the inhabitants of the islands so profusely scattered over the Pacific Ocean.

CHAP. XIV.—EASTER ISLA.

THIS island is situated in W. long. 109° 46′ 20″, and S. lat. 27° 5′ 30″, and is from 30 to 33 miles in circumference. Its surface is mountainous and stony, and the hills are visible at a distance of 45 miles. At the southern extremity of the island is the crater of a volcano, of great size, depth, and regularity; it is like the frustum of a cone, whose upper and lower bases appear more than two miles in circumference, and is at least 800 feet deep. The marsh at the bottom is surrounded with plantations of bananas and mulberry-trees, and contains several pools of fresh water, apparently on a level with the sea. The soil is so exceedingly fertile, that three days' labour is sufficient to procure an Indian subsistence for a year, and not more than a tenth part of the island is under cultivation, the rest being covered with a coarse kind of grass, which extends to the tops of the mountains. The cultivated portions are of an oblong form, without any enclosure. The weeds are carefully pulled up and burned in heaps, to fertilize the soil; and the soil is kept cool and moist by large stones that lie loose upon the surface. The principal productions of the island are potatoes, yams, arrow-root, gourds, plantains, and sugar-canes. The appearance, dress, language, and manners of the people have a near affinity to those of the other South Sea islanders.

CHAP. XV.—THE SOCIETY ISLANDS.

THIS extensive group is generally considered as containing all the islands between 130° W. long. and Easter Island, many of them of inconsiderable magnitude. Their name was given to them by captain Cook in honour of the Royal Society, at whose recommendation the voyages to the South Seas, which led to their discovery, were undertaken. The chief of them are the following:

	Lat.	Long.	Circum. in Miles.
Otaheite, or Tahiti	17° 48′ S.	150° W.	120
Huahine ..	16° 44′ S.	151° 1′ W.	21
Ulitea, Joretea, or Raiatea	16° 45′ S.	151° 31′ W.	50
Otaha, or Tahaa	16° 53′ S.	150° 20′ W.	
Borabora - -	16° 32′ S.	152° W.	
Mourooa, or Maupiti			
Toobaee, or Tubai -	23° 25′ S.	149° 23′ W.	
Tabooyamanoo and Eimeo.			

General Scenery.] "In the exterior, or border landscapes, of Tahiti and the other islands," says Mr Ellis, "there is a variety in the objects of natural beauty; a happy combination of land and water, of precipices and level plains, of trees, often hanging their branches clothed with thick dark foliage over the sea, and distant mountains shown in sublime outline and richest hues; and the whole often blended in the harmony of nature, produces sensations of admiration and delight. The inland scenery is of a different character, but not less impressive. The landscapes are occasionally extensive, but more frequently circumscribed. There is, however, a startling boldness in the towering piles of basalt, often heaped in romantic confusion near the source or margin of some cool and crystal stream, that flows in silence at their base, or dashes over the rocky fragments that arrest its progress: and there is the wildness of romance about the deep and lonely glens, around which the mountains rise like the steep sides of a natural amphitheatre, till the clouds seem supported by them—this arrests the attention of the beholder, and for a time suspends his faculties in mute astonishment. There is also so much that is new in the character and growth of trees and flowers, irregular, spontaneous, and luxuriant in the vegetation, which is sustained by a prolific soil, and matured by the genial heat of a tropic clime, that it is adapted to produce an indescribable effect. Often when either alone, or attended by one or two companions, I have journeyed through some of the inland parts of the islands, such has been the effect of the scenery through which I have passed, and the unbroken stillness which has pervaded the whole, that imagination unrestrained might easily have induced the delusion, that we were walking on enchanted ground, or passing over fairy lands. It has at such seasons appeared as if we had been carried back to the primitive ages of the world, and beheld the face of the earth, as it was perhaps often exhibited, when the Creator's works were spread over it in all their endless variety, and all the vigour of exhaustless energy, and before population had extended, or the genius and enterprise of man had altered the aspect of its surface."

Inhabitants.] "The inhabitants of the South Sea islands," says Mr Ellis, "are generally above the middle stature; but their limbs are less muscular and firm than those of the Sandwich islanders, whom in many respects they resemble. They are, at the same time, more robust than the Marquesans, who are the most light and agile of the inhabitants of Eastern Polynesia. In size and physical power they are inferior to the New Zealanders, and probably resemble in person the Friendly islanders as much as any others in the Pacific; exhibiting, however, neither the gravity of the latter, nor the vivacity of the Marquesans. Their limbs are well formed, and although where corpulency prevails there is a degree of sluggishness in their actions, they are generally active in their movements, graceful and stately in their gait, and perfectly unembarrassed in their address. Those who reside in the interior, or frequently visit the mountainous parts of the islands, form an exception to this remark. The constant use of the naked feet in climbing the steep sides of the rocks, or the narrow defiles of the ravines, probably induces them to turn their toes inwards, which renders their gait exceedingly awkward.

"Among the many models of perfection in the human figure that appear in the islands, (presenting to the eye of the stranger all that is beautiful in symmetry and graceful in action,) instances of deformity are now frequently seen, arising from a loathsome disease, of foreign origin, affecting the features of the face, and muscular parts of the body. There is another disease, which forms such a curvature of the upper part of the spine, as to produce what is termed a humped or broken back. The disease which produces this distortion of shape, and deformity of appearance, is declared by the natives to have been unknown to their ancestors; and, according to the accounts some of them give it, was the result of a disease left by the crew of Vancouver's ship. It does not prevail in any of the other islands; and although such numbers are now affected with it, there is reason to believe that, except the many disfigurements produced by the elephantiasis, which appears to have prevailed from their earliest antiquity, a deformed person was seldom seen.

"The countenance of the South Sea islander is open and prepossessing, though the features are bold, and sometimes prominent. The facial angle is frequently as perpendicular as in the European structure, excepting where the frontal and the occipital bones of the skull were pressed together in infancy. This was frequently done by the mothers with the male children, when they were designed for warriors. The forehead is sometimes low, but frequently high and finely formed; the eye-brows are dark and well-defined, occasionally arched, but more generally straight; the eyes seldom large, but bright and full, and of a jet black colour; the cheek-bones by no means high; the nose either rectilinear or aquiline, often accompanied with a fulness about the nostrils; it is seldom flat, notwithstanding it was formerly the practice of the mothers and nurses to press the nostrils of the female children, a flat and broad nose being by many regarded as more ornamental than otherwise. The mouth in general is well-formed, though the lips are sometimes large, yet never so much so as to resemble those of the African. The teeth are always entire, excepting in extreme old age, and, though rather large in some, are remarkably white, and seldom either discoloured or decayed. The ears are large, and the chin retreating or projecting, most generally inclining to the latter. The form of the face is either round or oval, and but very seldom exhibits any resemblance to the angular form of the Tartar visage, while their profile frequently bears a most striking resemblance to that of the European countenance. Their hair is of a shining black or dark brown colour; straight, but not lank and wiry like that of the American Indian, nor, excepting in a few solitary instances, wooly like the New Guinea or New Holland negroes. Frequently it is soft and curly, though seldom so fine as that of the civilized nations inhabiting the temperate zones.

There is a considerable difference between the stature of the male and female sex here, as well as in other parts of the world, yet not so great as that which often prevails in Europe. The females, though generally more delicate in form and smaller in size than the men, are, taken altogether, stronger and larger than the females of England, and are sometimes remarkably tall and stout. A roundness and fulness of figure, without extending to corpulency, distinguishes the people in general, particularly the females.

It is a singular fact in the physiology of the inhabitants of this part of the world, that the chiefs, and persons of hereditary rank and influence in the islands, are, almost without exception, as much superior to the peasantry or common people, in stateliness, dignified deportment, and physical strength, as they are in rank and circumstances; although they are not elected to their station on account of their personal endowments, but derive their rank and elevation from their ancestry. This is the case with most of the groups of the Pacific, but peculiarly so in Tahiti and the adjacent isles. The father of the late king was six feet four inches high; Pomare was six feet two. The present king of Raiatea is equally tall. Mahine, the king of Huahine, but for the effects of age, would appear little inferior Their limbs are generally well formed, and the whole figure proportioned to their height; which renders the difference between the rulers and their subjects so striking, that some have supposed they were a distinct race, the descendants of a superior people, who at a remote period had conquered the aborigines, and perpetuated their supremacy. It does not, however, appear necessary, in accounting for the fact, to resort to such a supposition; different treatment in infancy, superior food, and distinct habits of life, are quite sufficient.

"The prevailing colour of the natives is an olive, a bronze, or a reddish brown—equally removed from the jet-black of the African and the Asiatic, the yellow of the Malay, and the red or copper-colour of the aboriginal American, frequently presenting a kind of medium between the two latter colours. Considerable variety, nevertheless, prevails in the complexion of the population of the same island, and as great a diversity among the inhabitants of different islands. The natives of the Paliser or Pearl islands, a short distance to the eastward of Tahiti, are darker than the inhabitants of the Georgian group. It is not, however, a blacker hue that their skin presents, but a darker red or brown. The natives of Manaia, or Mangeea, one of the Harvey cluster, and some of the inhabitants of Rurutu, and the neighbourhood to the south of Tahiti, designated by Malte Brun, 'the Austral Islands,' and the majority of the reigning family in Raiatea, are not darker than the inhabitants of some parts of southern Europe."

TAHITI.] *Otaheite*, or *Tahiti*, consists of two peninsulas, joined by a narrow isthmus, each rising gradually from the shore into a mountain. covered to the very top with the most luxuriant foliage, and displaying all that inequality of surface in which the true beauty of landscape consists. The one is in length about 25 miles, and nearly the same in breadth; the other is about 20 miles in length, by 15 in breadth.

Climate, &c.] The climate is fine, and the soil is a blackish mould, uncommonly fertile, producing spontaneously a great variety of edible fruits, roots, and vegetables; of these the most common and most useful are the *artocarpus*, or bread-fruit, of which there are above 50 varieties, cocoa-nuts, jambos, 13 sorts of bananas, arum, potatoes, yams, sugar-canes, arrow-root, and the paper-mulberry, of which the inhabitants make their cloth. The only quadrupeds are dogs, hogs, and rats. The birds are of various kinds, and they have the domestic poultry common in Europe; also wild ducks, turtle-doves of a green colour, large pigeons, small paroquets, king-fishers, cuckoos, and herons. Of the small birds which abound in the forests, some are remarkable for the melody of their notes. The ants are troublesome, but no kind of serpent has yet been found; and frogs, toads, and scorpions, are equally rare. The sea on the coast abounds with fish, among which is said to be the sea-snake of which the bite is mortal.

Inhabitants.] Mr Ellis estimates the present population of this island at about 10,000. There is no question but that depopulation has taken place here, as in the other islands, to a considerable extent; but it is now under the renovating and genial influence of Christianity rapidly increasing. The natives of Otaheite are well-made, and oftener above than below the common size of Europeans. Their mode of life—which affords them much exercise, without subjecting them to severe labour—gives their bodies all that strength and elegance of which the human frame is capable. Some of the other inhabitants of the islands of the Pacific, and among the rest those of the Friendly islands, may be more hardy and robust, and their bodies may display a greater appearance of muscular strength; but none of them seem so well to unite the appearance of strength and elegance of shape, which is generally considered the perfection of human beauty. Their colour is tawny,—of a shade much lighter than that of the inhabitants of the Friendly islands; sometimes, particularly in those of the higher ranks, it approaches to what we call fair, but the cheeks never display that glow by which the northern Europeans are distinguished. The hair is generally black, but sometimes brown, red or flaxen, and frizzled, but without any resemblance to wool. The eyes are black, the nose flat, the mouth large, and the teeth white and even. Great part of the beard is eradicated; the remainder is worn in various fashions. The women are distinguished from the men by greater delicacy of form; and their skin is delicate and soft, which is procured by their frequent bathing, and copious use of the oil of the cocoa. The chiefs—like the mandarins in China—are distinguished by long nails. The women wear their hair short. The practice of puncturing the skin in different forms, generally called tatooing, is nowhere more prevalent than in Otaheite. This custom is common to both sexes. The punctures are formed with an instrument with many teeth, resembling a comb. The points of these teeth are struck through the skin, and into the punctures is inserted a kind of paste formed of soot and oil, which renders the impression indelible. Different persons are marked in different forms, according to their various fancies. The punctures are generally most crowded upon the hinder parts of the loins and thighs.

The dress of the Otaheitans is formed of a kind of cloth resembling paper, and made of the bark of certain trees, particularly of the paper-mulberry; but as this substance cannot long resist the rain, the garments formed of it are during wet weather thrown aside, and their place is supplied by others formed of a kind of matting. The dress is often, according to the taste of the wearer, highly ornamental. It consists of two pieces of cloth, one wrapped round the middle; the other, which has a hole in the middle for the reception of the head, hangs down from the shoulders to the middle of the leg, both before and behind. The dress of the women sometimes consists of three or four pieces; and not being bound to imitate any general fashion, they are left at liberty to display a fine shape to the best advantage. The missionaries have introduced the culture of the cotton-plant, and taught the natives to manufacture a coarse cotton-cloth.

The climate of this island renders houses almost superfluous, and as the inhabitants require little shelter, they have been proportionally careless in the construction of their habitations. These consist only of a shed or roof, resembling the roof of a barn in Europe, supported by three rows of pillars, one in the centre, and one at each side. The thatch is palm-leaves; and the floor is strewed with hay, and covered with mats. A few blocks of wood serve as stools by day, and by night as pillows. Under these sheds the natives generally sleep; but they eat and pass the day under a tree in the open air. They rise with the sun, and retire to rest about an hour after it is dark. For candles they use a kind of oily nut stuck upon a piece of wood.

The food of the common people is almost entirely vegetable. It commonly consists of the bread-fruit, bananas, plantains, yams, apples, and a sort of sour fruit, used as a relish to the roasted bread-fruit. The most general dish is *popoi*, which is made of the mountain-plantain beaten up to a paste or jelly, with cocoa-nut milk. Every kind of fish is eagerly devoured. The flesh of the fowls is not well-tasted, and is in little esteem. The flesh of dogs is the most favourite part of their animal food; and as these dogs are fed only on vegetables, their flesh is said to be little inferior to lamb. The natives have no regular time for their meals, but generally arrange them according to their avocations. They usually eat in the forenoon, but their principal meal is taken towards evening.

The Otaheiteans make a kind of cloth formed of the bark of three kinds of trees; the Chinese mulberry tree, called by the natives *avuta*; the bread-fruit tree, called *ooroo*; and a tree said to resemble the wild fig of the West Indies. The cloth made from the mulberry is superior to that made from the other two. This cloth is not woven, but is formed in the manner of paper, by beating the bark into a kind of paste. It is sometimes dyed of different colours, and is then highly esteemed, being worn only by the upper classes. Their mats are formed in a manner different from their cloth, being woven very artificially of rushes, grass, and the bark of trees; so dexterous are they in this art, that they make mats finer than any to be found in Europe. The finer sorts of mats are used as garments in wet weather; the coarser are used as coverings for the floors of their sheds, and to sleep on. Baskets are made with surprising neatness. Ropes and lines are formed of the bark of a tree, and thread of the fibres of the cocoa nut. Fishing lines are made of the bark of a species of nettle, and nets of a coarse kind of grass. Their hooks are of mother-of-pearl: their harpoons of cane, pointed with hardwood. Their tools are hatchets formed of a stone resembling basaltes,—a chisel made generally of the bone of a man's arm,—a rasp made of coral or the skin of a stingray,—and coral and sand are used for the purpose of polishing. Their arms are slings,—pikes headed with the skin of a stingray,—clubs made of hard wood, and often six or seven feet long,—and sometimes targets of a kind of wicker work. They have bows and arrows; but as the arrows are blunt, they are used only to bring down birds. Their small canoes are formed of a single tree, and carry from two to six men. Their large canoes are formed of several planks sewed together, and are either fitted with an outrigger, or two of them are fixed together with planks The seams are caulked with dry rushes, and the whole is covered with a gummy substance, which serves the purpose of pitch.

The Areoi Society.] The institution, called the Areoi Society, appears to have been peculiar to the islands of the Pacific, if not to the inhabitants of the southern groups. One of the standing regulations of this institution was the murder of the children of the initiated. The members formed a kind of band of strolling players and privileged libertines, who spent their time in travelling from island to island, and from one district to another, exhibiting their pantomimes, and practising most obscene rites. They were divided into seven distinct classes, each of which was distinguished by the kind or situation of the tatooing on their bodies. The fraternity was not confined to any particular rank or grade in society, but was composed of individuals from every class. The entire dissolution of this association, and the abolition of its cruel and abominable practices, was one of the invaluable blessings conferred upon the South Sea islanders by the introduction of Christianity.

Their religion, like that of the Tonga and Sandwich islanders, was idolatry of the most barbarous kind; their manners were extremely licentious, and their dispositions, notwithstanding many fair appearances, ferocious and cruel. Like all other savages, they were perpetually at war among themselves, and their wars were of the most relentless and cruel character; but by the labours of the missionaries of the London Missionary society, they have made an open profession of Christianity, and Otaheite with its dependencies may now be happily classed among Christian nations; they are learning to read the word of God, and, in many instances, have made a wonderful progress in practising those duties which it enjoins. The gospel of Matthew has been translated and published by Mr Davies, who has also published a grammar of the Tahitian language.

Eimeo.] Eimeo, or *Moorea*, the name most frequently given by the natives to this island, was discovered by captain Wallis, and by him called *Duke of York's island.* It is situated about 12 or 14 miles W. from

Tahiti, and is 25 miles in circumference. In the varied forms its mountains exhibit, the verdure with which they are clothed, and the general romantic and beautiful character of the scenery, this island far exceeds any other of the Society group. A reef of coral surrounds it like a ring, and presents several small and verdant islands. On the N. side of Eimeo is *Taloo* harbour, one of the most secure in the Pacific. On the N.E. side is an extensive and beautiful lake, stocked with fish, and the resort of wild fowl. The rivers of Eimeo are small. The mountains are broken, and not so high as those of Tahiti.

Raiatea.] This island is of a triangular form, and is 50 miles in circumference. The northern and western sides are singularly romantic; the shore is generally a gradual and undulating ascent from the water's edge. At the N.E. angle there is a deep indentation of the coast; into which the ocean extends a mile and a half between perpendicular rocks. Next to Tahiti, Raiatea is better supplied with streams than any other island of the group. Its lowlands are extensive, and the valleys are capable of the highest cultivation. This island was the cradle of the Polynesian mythology, and the seat of their high oracle.

Tubuai.] Tubuai, in 23° 25′ S. lat. and 149° 23′ W. long., was discovered by Cook. It is compact, hilly, and verdant; but less picturesque than Rapa, and surrounded by a coral reef. The inhabitants have generally embraced the profession of Christianity.

Rapa.] Rapa, or *Oparo*, was discovered by Vancouver in his passage from New Zealand to Tahiti. It is situated in 27° 36′ S. lat., and 144° 11′ W. long. It is about 20 miles in circumference, and is tolerably well-wooded and watered. The mountains are lofty and picturesque; the summits of those forming the central high land resemble a range of irregularly inclined cones. This island does not appear to be surrounded with reef. On the eastern side there is a fine harbour. Mr Davies estimates the population at about 2,000. The inhabitants are a less civilized race than those of the adjacent islands.

CHAP. XVI.—THE HARVEY ISLANDS.

To the S.W. of the Society islands is a small cluster called the Harvey islands. *Manaia*—which captain Cook improperly called *Mangeea*—is included within a barrier of coral rock from 20 to 70 feet in height, in which there are some openings which lead into the interior. The cultivated portion of the island consists of six large valleys, containing plantations of taro, plantains, te-root, cocoa-nuts, and bread-fruit. The number of inhabitants is about 1,500, of whom some have embraced Christianity. The chiefs are possessed of great authority. On one of the higher hills is a very deep hole or pit, into which all the dead are promiscuously thrown. They are brought from all parts of the island to this common receptacle, which has been used for ages. The language approaches nearer to that of New Zealand than to the Tahitian. The natives are ingenious, and display great taste in their *sinnets*, which are usually of beautiful workmanship.—*Rarotonga* has a population of about 7,000 souls, the majority of whom have embraced Christianity, and under its benign influence have become highly civilized. The whole island is one cultivated garden; men, women, and children, being constantly employed in agriculture.—*Aitutake* is greatly infested with rats.—*Mautii* is completely surrounded by a coral reef formed into ridges from 10 to 20 feet high, below which are lower ones. The only mode of access to the interior of the island is by leaping out of the boat upon the reef where there is least surf, and where the sea is shallowest. The population amounts to about 200, who have made great progress in civilization under the teaching of our missionaries.—*Mitiaro* is barren and unfruitful.—*Atui* is considerably diversified in surface. The valleys are filled with cocoa-nut trees.

CHAP. XVII.—THE MARQUESAS.

Such of the groupe of islands known by the name of *Marquesas*, and forming the S.E. part of the archipelago of Mendana, as have been sufficiently explored, are situated between 8° and 10° S. lat., and between 139° and 140° W. long. The five of greatest importance have been distinguished by the names *La Magdalena* or *Fatouiva*, *St Pedro* or *Metane*, *La Dominica* or *Ohiroa*, *Santa Christiana* or *Tahouata*, and *Hood Island*. These islands viewed from the sea have a bold, and, in some parts, a rugged aspect. The land is high; and the shores present hollow rocks, the black, spongy, and hard stones of which indicate a volcanic origin. The level districts yield in abundance the bread-fruit, bananas, plantains, cocoa-nuts, and the paper-mulberry; with many other trees and shrubs common within the tropics. The hog is the only native quadruped; but the forests abound in birds, and poultry are not scarce. The sea on the coasts affords many kinds of fish. The inhabitants are universally described as exhibiting great elegance and symmetry of form. Their complexion is a bright brown, more or less deep; some approach to that of the Malabar Indians; but many differ little in complexion from Europeans of the labouring class. Their hair presents the same variety as that of our climate; some is flaxen, some auburn, or black, but none either red or woolly is to be met with. They have regular features, fine black eyes, and handsome teeth. The greater part have flat noses; aquiline noses, however, are by no means uncommon among them. Their countenance in general is frank and open. In their manners, religion, and language, they approximate very nearly to those islanders already described. They are less ingenious in the construction of their canoes than some of their neighbours; but in filthiness and profligacy they surpass them. Here too, through the liberality of the British public, has Christianity lifted up her soul-cheering voice, though unhappily hitherto with little effect.—The leading islands in this archipelago were discovered by Mendana, who gave them the name of Gardias de Mendoça, marquis of Caneti, and viceroy of Peru.

CHAP. XVIII.—THE SANDWICH ISLANDS.

It is nearly half a century since captain Cook, in search of a northern passage from the Pacific to the Atlantic, discovered a group of islands between 18° 50′ and 22° 20′ N. lat., and 154° 53′ and 160° 15′ W. long., which, in honour of the first lord of the Admiralty, he called the Sandwich islands. They form the most isolated group of all Polynesia, and the N.E. extremity of that extensive geographical region; and extend in a direction W.N.W. and E.S.E.

Number and Size.] The Sandwich islands are ten in number, and bear the following names, written according to the orthography adopted by the missionaries, who have given to the people of those islands a written language: viz. *Hawaii*, *Maui*, *Tahaurawe*, *Morokini*, *Ranai*, *Morokai*, *Oahu*, *Tauai*, *Nihau*, and *Taura*. The estimated length, breadth, and superficial contents, of each island, is as follows:

	Length.	Breadth.	Sq. Miles.	Population.
Hawaii	97 miles	78	4,000	85,000
Maui	48	29	600	19,000
Tahaurawe	11.	8	60	
Ranai	17	9	100	2,000
Morokai	40	7	170	3,000
Nihau	20	6	80	
Oahu	46	23	520	20,000
Tauai	33	28	520	10,000
Taura ?				

Volcanic Origin.] Most of the islands are mountainous, and the mountains rise sometimes to a great height. The summits of *Mouna Kaa* and *Mouna Roa*, on Hawaii, are not less than 15,000 feet high, thus ascending into the region of perpetual congelation. That these lofty piles had a volcanic origin, there can be no doubt. The marks of ancient craters are numerous upon them; and on the side of Mouna Roa, midway between the ocean and the summit, is one of the most remarkable volcanoes in the world.

General Character.] These islands, situated under the same parallels of latitude with the West Indies, enjoy a climate in many respects similar, but more temperate and healthy. There is nothing like winter; hurricanes, so much dreaded in the West Indies, are unknown; and the only variation in the uniformity of the seasons is occasioned by the frequent and heavy rains which usually fall between December and March, and the prevalence of southerly and variable winds during the same season. According to a meteorological journal, kept by the American missionaries, from August, 1821, to July, 1822, inclusive, the general temperature was from 70° to 83°, and rain fell on 40 days. The soil is rich in those parts which have long been free from volcanic eruptions; the lands most susceptible of cultivation lie generally within 2 to 7 miles of the sea; the interior of the islands is generally broken into steep ridges and deep ravines. Their natural history, as it regards the animal kingdom, is exceedingly circumscribed. The only quadrupeds originally found inhabiting these islands were a small species of hogs, a few dogs, lizards, and an animal betwixt a mouse and a rat. There are now large herds of cattle in Hawaii; and goats and horses thrive well. Birds, excepting those which are aquatic, are seldom seen near the shores. In the mountains they are numerous, and some of them beautiful. There are no noxious reptiles except centipedes. Fish are not abundant. Vegetable productions are found in considerable variety. The natives subsist principally on the roots of the *arum esculentum*, the sweet potatoe, and the yam. The principal indigenous fruits are the cocoa-nut, plantain, bread-fruit, strawberry, and raspberry. Oranges, lemons, citrons, grapes, pine-apples, papaw-apples, cucumbers, and water-melons, have been introduced. The sugar-cane is indigenous, but is not much cultivated. Large tracts of fertile land lie waste in most of the islands. The local situation of the Sandwich islands is highly advantageous for purposes of commerce. On the N. are the Russian settlements in Kamstchatka and along the coast of Eastern Siberia; to the

N.W. are the islands of Japan; due W. lie the Marian islands, Manilla in the Philippines, and Canton in China; and on the E. are the coasts of California and Mexico. Almost all their dealings are conducted by barter; they indeed know the value of dollars, and are willing to take them in exchange, but they seldom appear again in circulation, being carefully hoarded up. Vessels are supplied with fresh provisions, live stock, salt, and other articles of outfit, for which they give in return, cloth, fire-arms, and ammunition, the teeth of the sea-lion, carpenters' tools, hardware, and in general European articles of every description. Sandal wood, pearls, and mother-of-pearl shells, are purchased at these islands for the China market. The inhabitants of Hawaii excel in making paper cloth, whilst those of Atooi excel in canoes, paddles, and spears; and they very often make exchanges in these articles. Owing to the number of ships touching at these islands, provisions are by no means cheap. The unfortunate death of captain Cook, and the frequent murders committed by the natives on navigators, particularly in Woahoo, in which lieutenant Hengist, and Mr Geoch, astronomer of the Dædalus, Messrs Brown, Gordon, and prince Lee Boo, lost their lives, gave such ideas of the savage nature of the inhabitants, that for many years, few ships would venture to touch at these islands. But after Tamehameha, the late king, had established his power, he regulated his conduct by such strict rules of justice, that strangers found themselves as safe in his ports as in those of any civilized nation.

Government.] The islands are now subject to one government, consisting of a king, and a considerable body of chiefs. The government in all its branches is hereditary. The king is regarded as owning all the lands, and possesses unlimited power. The lands are divided among the chiefs, who hold them from the king, on condition of paying tribute. The people again hold the lands from the chiefs, to whom they pay a certain portion of the produce. Within their own territorial limits, the power of the chiefs is absolute. The operation of this system upon the people is said to be very oppressive; but as the nation in general becomes enlightened, it is to be expected that the policy of its rulers will be more liberal, and the general prosperity of these islanders advanced. The present king is Kaukiauli, a brother of Rio-rio, who died in England while on a visit to his royal brother and protector his British majesty.

Manners and Customs.] The character of the inhabitants, so far as they are unaffected by the instructions of the missionaries, is lamentably debased. Theft, treachery, drunkenness, impurity, and infanticide, are awfully prevalent. The social and domestic virtues are little known. Polygamy is common, and murder by poison is believed by the natives to be very frequent. The houses of the natives are of the simplest form; they are oblong, with very low side-walls, and high thatched roofs; and consist of one apartment without tables or seats. They are however kept very clean; and their household utensils, consisting of wooden dishes, and calabashes, are hung upon the walls. The floors of the meaner houses are bare, except the sleeping-place, where a few mats are spread; those of the higher orders are entirely covered over with mats worked with great elegance into different patterns. At one end a platform raised about three feet from the ground, which extends the whole breadth of the apartment, is spread with a layer of rushes, and covered with mats. This forms the sleeping-place for the upper part of the family. The attendants sleep at the opposite end. As the two sexes, till of late, never ate together, the chiefs had always a separate eating-house; and even the lower ranks had one to every six or seven families for men. The women ate in the same apartment in which they slept. Few houses, except those of the chiefs which are surrounded with a paling, have any windows, the light being admitted by the door. Their mode of cooking is by baking and broiling on hot stones, wrapping the article to be baked in leaves. Fish are frequently eaten raw. Pork they preserve by salting and drying. A kind of pudding made of taro root, and dried in the sun, serves as a substitute for bread. The sugar-cane is also a general article of food. The tootooee-nut, from its oily nature, supplies the place of candles, and yields an oil well-adapted for painting. They have learned the processes of fermentation and distillation, and are supplied with stills from the American ships. From the tee-root they distil an ardent spirit to which they are too much attached. Smoking tobacco, which grows in abundance on the islands, is another luxury of which they are very fond; and great ingenuity is displayed in the formation of their pipes. The dress of the women consists of a piece of cloth, about one yard broad and three in length, wrapped round the waist, with the end tucked in below, and reaching to the calf of the leg; in cold weather they use an additional piece, like a plaid, over their shoulders. Wreaths of flowers are sometimes worn, and an ivory ornament round the neck. The hair is combed back in front, and plastered white with a kind of lime made from burnt shells. They are at great pains in ornamenting themselves; every female is provided with a mirror, and all ranks pay the utmost attention to personal cleanliness. The dress of the men consists of a small girdle called the *maro*. Upon great occasions the chiefs wear elegant cloaks, and helmets of red and yellow feathers. When they swim off to ships, they hold their clothes out of the water in one hand, changing it as it becomes fatigued. They are most dexterous fishers both with net and line. In every article of their manufacture they display an extraordinary degree of neatness and ingenuity; and acquire, in a very short time, a knowledge of the useful arts from their visitors. They have now native carpenters, coopers, blacksmiths, and tailors, equal to Europeans. Dancing, wrestling, and a game similar to draughts, but more complicated, are their favourite amusements.

Religion.] The ancient system of idolatry operated only on the fears of its votaries. Its requisitions were severe, and its rites cruel and bloody. Grotesque and horrid wooden figures, animals, and the bones of chiefs, were the objects of worship. Human sacrifices were offered whenever a temple was to be dedicated, or a chief was sick, or a war was to be undertaken; and these occasions were frequent. The apprehensions which the people had of a future state were undefined and fearful. The lower orders expected to be slowly devoured by evil spirits, or to dwell with the gods in the burning mountains. The several professions, such as that of the fisherman, the tiller of the ground, and the builder of canoes and houses, had each their presiding deities. Household gods were also kept, which the natives worshipped in their habitations. The volcanoes had, moreover, a superintending power, the goddess *Pele*, who was much dreaded. One merciful provision, however, had existed from time immemorial, and that was sacred enclosures, places of refuge, into which those who fled from war, or from any violent pursuer, might enter, and there be safe. Their principal god, to whom they attribute the creation of the world, is called *Etooah*; and they have seven or eight subordinate deities to whom offerings are also made. They have a tradition of a general deluge. According to their account, the sea once overflowed the whole world, except Mouna Kaa in Hawaii, and swept away all the inhabitants but one pair, who saved themselves on that mountain, and are the parents of the present race of mankind. Their *morais*, or places of worship, consisted of one large house or temple, with some smaller ones round, in which were the images of their inferior gods. The *tabooed*, or consecrated precincts, were marked out by square posts which stood 30 or 40 yards from the building. In the inside of the principal house there was a screen or curtain of white cloth hung across one end, within which the image of Etooah was placed. When sacrifices were offered, the priests and chiefs entered occasionally within this space, going in at one side and out at the other. On the outside were placed several images made of wood, as ugly as could well be imagined, having their mouths all stuck round with dog's teeth. Their holydays were kept three or four times a month; the ceremonies lasting from sunset on the day preceding to sunrise on the following day, during which no person was permitted to pass the bounds of the morai. This time was spent in prayer, eating the sacrifices, and conversation. Human sacrifices were offered on their going to war. It has never, until now, been ascertained with certainty how they disposed of their dead. It appears that the duty of concealment devolves upon the next of kin, who buries the body in the middle of the night following their death; and when the flesh has been consumed they gather up the bones, which they convey into the interior and lodge in a cavity or cliff of the rocks; these spots are then *tabooed*, or held sacred by the erection of four poles, to go within which is death. The only symptoms of anger any of the natives discovered towards the Blonde's people, who conveyed the bodies of their late king and queen from Britain to Hawaii, was when, accidentally, one of them removed a portion of one of these depositories of the remains of mortality. The bones of the royal family, in the same manner, are collected in a temple or sepulchre, and which is the only remaining building of the former religion now on the island, and which is situated in Karakokooa bay. The bow, arrow, slings, and clubs of the deceased kings and chief warriors, are also deposited with their remains. The system of idolatry, so far as it was connected with the government, was abolished by Rio-rio, sometimes called Tamehameha II. the son and successor of Tamehameha I.[1] This was done in 1819, before Christian missionaries came.

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[1] Since these islands were discovered by Cook, in 1778, they have been the scene of many sanguinary struggles for superiority among rival chiefs, which at last gave Tamehameha, known in Cook's voyages by the name of Maiha-maiha, and who was present at the unfortunate death of that great man, nearly an undisputed sovereignty over the whole. This sovereignty he employed in promoting the civilization of his people so effectually, as justly to claim the admiration of his contemporaries, and a distinguished place among the benefactors of the human race. It was only so late as 1794, that Vancouver laid down the keel of his first decked vessel, and in 1802 he had upwards of 20 sail, some of them copper-bottomed. He had likewise a palace built of brick, after the European fashion, with glazed windows, and defended by a battery of ten guns; and a regularly disciplined body guard, amounting to between 200 and 300 men, independently of a numerous retinue of chiefs, who were required to attend him in all his journeys. His subjects he encouraged, by all possible means, to prosecute with vigour and perseverance all the most useful European trades; and he contrived to surround himself with European and American artificers of every description, and from them his subjects acquired a knowledge of all the mechanical arts. He died on the 8th of May, 1819, and the record of his death is inscribed on the naked arms of many of his subordinate chiefs and subjects, who loved him with a sincere affection. Mr Ma-

into his dominions, and was owing to three causes: first, a desire to improve the condition of his wives, who, in common with all the other females of the islands, were subject to many painful inconveniences from the operation of the *tabu*; secondly, the advice of foreigners, and of some of the more intelligent chiefs; and thirdly, and principally, the reports of what had been done by Pomare in the Georgian islands. A few of Riorio's subjects revolted, in consequence of this measure; but Karaimakoo, his general, defeated them in a decisive battle, at a place called Tuamoo,

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thison, in his 'Narrative of a visit to Brazil,' gives a very interesting account of his successor, Rio-rio, or Reho-reho, and the manner in which this enterprising chief accomplished the deliverance of his people from the horrors of anarchy, and the trammels of a cruel and obscene superstition:—'The last dying words of Tama-hamah-hah to his son, enjoined upon him the protection of foreigners, and the cultivation of a friendly intercourse with all nations. He pointed out their great superiority in the arts both of war and peace,—the riches and consequent advantages which an extended commerce with them would confer,—and the opposite evils which were likely to follow disagreements with such powerful adversaries. The young king Reho-reho, who was 20 years of age at his father's death, neglected no part of his instructions. The persons and properties of the white inhabitants remain unmolested. Trading vessels were encouraged, and unlimited confidence established, as before, between the foreigners and natives. In these and his other measures Reho-reho displayed much vigour. Woahoo, Whyhee, Mowee, and the other islands, with the exception of Atooi, submitted to his authority; but some doubt was entertained respecting the king of Atooi, who had always held a right of sovereignty in that island: and though he owned allegiance to Tama-hamah-hah, it was known to be paid more through fear of his power than otherwise, and therefore no dependence could be placed on a continuance of his fealty. The point was debated with the king, Karaimakoo, and the other principal advisers, as to the measures which should be pursued, in case any refractory spirit were to show itself in Atooi: which ended by a declaration from Reho-reho, to the effect 'that he would manage the whole thing his own way;' accordingly, he put himself into a small canoe, in spite of their remonstrances, the very same night, with only a few attendants, and made the best of his way to that island. He fortunately arrived safe, and went at once boldly up to the house of his supposed rival, whom he found, as usual, surrounded by a large party of chiefs and adherents. Their surprise at so unexpected a visit was only equalled by what they felt, when he declared the purpose of it. He came, he said, to receive that submission which had been always paid to his father, and which he now claimed in his own person, as successor, by the acknowledged right of inheritance. 'It is mine,' he pursued, 'to command, yours to obey; but people say you meditate resistance; I do not believe them, and throw myself, without fear, upon your sense of honour and hospitality. If you are my enemy in secret, be so now openly; I am alone, unarmed, and in your power: but if you are my friend, as I hope and believe, merit the confidence reposed in you, by banishing the remembrance of all past enmities in present cordiality. I hereby offer you my pledge, as king; do you accept it as a faithful subject should do? we will then part friends, and in peace; if not, let each abide by the consequences of his own act.' An appeal so noble, so frank, and so energetic, proved, as it deserved to be, irresistible. The young king was welcomed to Atooi with every demonstration of respect. His demands were complied with, and after a short stay in that island, during which *hourah-hourah* and other festivities were given, in his honour, he returned in state to Woahoo, attended by his brother king and a multitude of his adherents. In considering this story, one is at a loss which most to admire,—the display of intrepid confidence and chivalrous spirit on the one side,—or of generous and honourable feeling on the other; while both evinced that certain elevation of mind which is, perhaps, more the gift of nature than of education, in every country and in every age. The next act of Reho-reho was not less bold in its conception and execution, and is likely to be productive of the most important and beneficial consequences. The whole *taboo* system of idolatrous religion, which had existed from time immemorial, and is described at large by Cook and Vancouver, was radically abolished; all superstitious restrictions, such as those which prohibited the women from eating pork, cocoa nuts, &c., or from taking their meals in company with the men, were set aside; and the priests, who no longer had any duties to perform, and no religious principle to influence their conduct, yielded a ready obedience to the authority of the king, and acquiesced without hesitation in this important change. The *morais*, or temples, with their blood-stained altars, upon which human victims had been so often immolated to appease the supposed wrath of heaven, were universally levelled with the ground; the images were committed to the flames; and so complete was the work of destruction, that, in the course of a few months, neither sacrifices nor religious observances of any sort were kept, or even thought of, by the inhabitants."

and peace was soon restored. At this time, missionaries were on their way from the United States, and, a few months afterwards, arrived with the gospel of Jesus Christ.

There are now six missionary stations on these islands: viz. on Hawaii, three,—on Oahu, one,—Maui, one,—on Tauai, one. At each of these places a church has been erected by the chiefs, and the public worship of God is regularly attended on the sabbath. Schools are established at the several stations, embracing, in the whole, more than 1,000 scholars. In many instances the more forward pupils have been sent into other districts as teachers; and the ability to read and write is daily extending among the people. Epistolary correspondence among the chiefs has become common. Scarcely a vessel passes from one island to another, without carrying many letters, composed by natives in their own language; though, until convinced of the contrary by the missionaries, they regarded the 'speaking letter' as a magical operation, quite beyond their powers of attainment. It is believed that every considerable chief on the islands favours the missionaries, the meliorating tendency of whose influence is already to be perceived in an edict prohibiting infanticide, and in the mildness—altogether unprecedented in those islands—with which the late war on Tauai was conducted. Many of the warriors on the side of the king were from the schools at Honoruru; and the vanquished were not slain, but were sent by Karaimakoo to their lands, with injunctions to attend to the *palapala,* as the system of instruction is denominated. In some instances, the observance of the sabbath has been enjoined by authority. Marriage has been introduced in a few cases, and also the Christian mode of burial.

Language.] The language of the Hawaiians, according to Mr Ellis, is a dialect of what the missionaries in the South seas have called the Polynesian language, spoken in all the islands which lie to the E. of the Friendly islands, including New Zealand and Chatham. The numerals are similar to those of the Malays; and a number of words appear to have true Hebrew roots. The simple construction of the words, the predominancy of vowels, and the uniform terminations, are its great peculiarities. The syllables are, in general, composed of two letters, and never of more than three. There are no sibilants in the language, nor any double consonants; and as every word and syllable terminates with a vowel, the sound is peculiarly soft and harmonious.

HAWAII.] Hawaii, sometimes written *Owhyhee,* is the largest not only of the Sandwich islands, but of the groups of the Friendly and Society islands. It is about 280 miles in circumference, and has a superficial extent of 4,000 square miles. It presents evident traces of having, at no very remote period, been convulsed by volcanic eruptions. Cinders and ashes are everywhere scattered upon the ground; and several black streaks seem to indicate the course of the lava towards the sea. The true beauties of landscape, however, are by no means wanting. Numerous cascades pour from the mountains and rocks; and their streams flowing through the intervening valleys tend greatly to fertilize them. The contrast which such spots form with the rugged aspect of the country around them adds much to the romantic appearance of the scenery. In the neighbourhood of Kairua, Mr Ellis passed over a large tract of volcanic country with burning chasms and hills, which he thus describes:—"This tract of lava resembled in appearance an inland sea bounded by distant mountains.

Once it had certainly been in a fluid state, but it now appeared as if it had become suddenly petrified, or turned into a glassy stone, while its agitated billows were rolling to and fro. Not only were the large swells and hollows distinctly marked, but in many places the surface of these billows was covered by a smaller ripple, like that observed on the surface of the sea at the first springing up of a breeze, or the passing currents of air, which produce what the sailors call a cat's-paw. About 2 p. m. the crater of Kairua suddenly burst upon our view. We expected to have seen a mountain with a broad base and rough indented sides, composed of loose slags, or hardened streams of lava, and whose summit would have presented a rugged wall of scoria, forming the rim of a mighty cauldron. But, instead of this, we found ourselves on the edge of a steep precipice, with a vast plain before us, 15 or 16 miles in circumference, and sunk from 200 to 400 feet below its original level. The surface of this plain was uneven, and strewed with huge stones, and volcanic rock, and in the centre of it was the great crater, at the distance of a mile and a half from the place where we were standing. We walked on to the north end of the ridge, where, the precipice being less steep, a descent to the plain below seemed practicable. With all our care, we did not reach the bottom without several falls and slight bruises. After walking some distance over that sunken plain, which in several places sounded hollow under our feet, we at length came to the edge of the great crater, where a spectacle sublime, and even appalling, presented itself before us. Immediately before us yawned an immense gulph, in the form of a crescent, about 2 miles in length, from N.E. to S.W., nearly a mile in width, and apparently 800 feet deep. The bottom was covered with lava, and the S.W. and northern parts of it were one vast flood of burning matter, in a state of terrific ebulition, rolling to and fro its 'fiery surge' and flaming billows. Fifty-one conical islands, of varied form and size, containing so many craters, rose either round the edge, or formed the surface of the burning lake; 22 constantly emitted columns of grey smoke or pyramids of brilliant flame; and several of these, at the same time, vomited from their ignited mouths streams of lava, which rolled in blazing torrents down their black indented sides, into the boiling mass below. The existence of these conical craters led us to conclude that the boiling cauldron of lava before us did not form the focus of the volcano,—that this mass of melted lava was comparatively shallow,—and that the basin in which it was contained was separated by a stratum of solid matter from the great volcanic abyss which constantly poured out its melted contents through these numerous craters into this upper reservoir. The sides of the gulf before us, although composed of different strata of ancient lava, were perpendicular for about 400 feet, and rose from a vide horizontal ledge of solid black lava of irregular breadth, but extending completely round; beneath this ledge, the sides sloped gradually towards the burning lake, which was, as nearly as we could judge, 300 or 400 feet lower. It was evident that the large crater had been recently filled with liquid lava up to this black ledge, and had by some subterraneous canal, emptied into the sea or under the low land on the shore. The grey, and, in some places, apparently calcined sides of the great crater before us; the fissures which intersected the surface of the plain on which we were standing; the long banks of sulphur on the opposite side of the abyss; the vigorous action of the numerous small craters on its borders, the dense columns of vapour and smoke that rose at the north and south end of the plain; together with the ridge of steep rocks by which it was surrounded, rising probably in some places 300 or 400 feet in perpendicular height, presented an immense volcanic panorama, the effect of which was greatly augmented by the constant roaring of the vast furnaces below."

Death of Cook.] While visiting this island, Mr Ellis obtained the following narrative of the circumstances attending the unhappy dispute in which our celebrated navigator Cook here lost his life :—

" The foreigner," they say, " was not to blame ; for, in the first instance, our people stole his boat, and he, in order to recover it, designed to take our king on board his ship, and detain him there till it should be restored. *Kapena Kuke*, and *Taraiopou*, our king, were walking together towards the shore, when our people, conscious of what had been done, thronged round the king, and objected to his going any further. His wife also joined her entreaties that he would not go on board the ships. While he was hesitating, a man came running from the other side of the bay, entered the crowd almost breathless, and exclaimed, ' *It is war!*—the foreigners have commenced hostilities, have fired on a canoe from one of their boats, and have killed a chief.' This enraged some of our people, and alarmed the chiefs, as they feared Captain Cook would kill the king. The people armed themselves with stones, clubs, and spears—Kanona entreated her husband not to go—All the chiefs did the same—The king sat down—The captain seemed agitated, and was walking towards his boat, when one of our men attacked him with a spear; he turned, and with his double-barrelled gun, shot the man who struck him. *Some of our people then threw stones at him, which being seen by his men, they fired on us.* Captain Cook then endeavoured to stop his men from firing, but could not on account of the noise. He was turning again to speak to us, when he was stabbed in the back with a *pahoo ;* a spear was at the same time driven through his body : he fell into the water, and spoke no more.

" ' After he was dead we all wailed. His bones were separated—the flesh was scraped off, and burnt, as was the practice in regard to our own chiefs when they died. We thought he was the god Rono, worshipped him as such, and after his death reverenced his bones.'

" Not only were his bones so treated, but almost every relic left with him. Among other things, a *sledge*, which, from their description of it, must have come from the north-west coast of America, left at the islands by Captain Cook, or some of his companions, was afterwards worshipped by the people. They called it, probably from its singular shape, *Opaitauarii*, crab, or shrimp, for a chief to rest on; from *opai*, a crab, or shrimp, *tau*, to rest or sit, and *arii*, a chief.

" Many of the chiefs frequently express the sorrow they feel whenever they think of the captain; and even the common people usually speak of these facts with apparent regret: yet they exonerate the king Taraiopu from all blame, as nothing was done by his orders. I was once in a house in Oahu with Karaimakoo, and several other chiefs, looking over the plates in the folio edition of Cook's Voyages. They were greatly affected with the print which represented his death, and inquired if he knew the names of those who were slain on that occasion. I perceived Karaimakoo more than once wipe the tears from his eyes while conversing about this melancholy event. He said he recollected Captain Cook's visit, if not also his person, though he was at Maui at the time of his death. More than once, when conversing with us on the length of time the missionaries had been in the Society islands, they have said, Why did you not come here sooner ? Was it because we killed Captain Cook ?

" We have sometimes asked them what inducement they had to steal the boat, when they possessed so many canoes of their own. They have generally answered, that they did not take it to transport themselves from one island to another, for their own canoes were more convenient, and they knew better how to manage them, but because they saw it was not sewed together, but fastened with *nails*. These they wanted, therefore stole the boat, and broke it to pieces the next day, in order to obtain the nails to make fish-hooks with. We have every reason to believe that this was the principal, if not the only motive, by which they were actuated in committing the depredation which ultimately led to such unhappy consequences. They prize nails very highly ; and though we do not know that they ever went so far in their endeavours to obtain a more abundant supply as the Society islanders did who actually planted them in the ground, hoping that they would grow like potatoes, or any other vegetable, yet such is the value they still set on them, that the fishermen would rather receive a wrought nail, to make of it a fish-hook according to their own taste, than the best English-made fish-hook we could give them.

" It has been supposed, that the circumstance of Captain Cook's bones being separated, and the flesh taken from them, was evidence of a savage and unrelenting barbarity ; but so far from this, it was the result of the highest respect they could show him.

" We may also mention here the reason for which the remains of Captain Cook received, as was the case, the worship of a god. Among the kings who governed Hawaii during what may, in its chronology, be called the fabulous age, was *Rono*, or *Orono ;* who, on some account, became offended with his wife, and murdered her ; but afterwards lamented the act so much as to induce a state of mental derangement. In this state he travelled through all the islands, boxing and wrestling with every one he met.

" He subsequently set sail in a singularly shaped canoe for Tahiti, or a foreign country. After his departure he was deified by his countrymen, and annual games of boxing and wrestling were instituted to his honour. As soon as Captain Cook arrived, it was supposed, and reported, that the god Rono was returned; hence the people prostrated themselves before him as he walked through the villages. But when, in the attack made upon him, they saw his blood running, and heard his groans, they said, 'No, this is not Rono.' Some, however, after his death, still supposed him to be Rono, and expected he would appear again. Some of his bones, his ribs, and breast-bone, were considered sacred, as part of Rono, and deposited it in a *heiau* (temple) dedicated to Rono, on the opposite side of the island. There religious homage was paid to them, and from thence they were annually carried in procession to several other heiaus, or borne by the priests round the island, to collect the offerings of the people, for the support of the worship of the god Rono. The bones were preserved in a small basket of wicker-work, completely covered over with red feathers; which in those days were considered to be the most valuable articles the natives possessed, as being sacred, and a necessary appendage to every idol, and almost every object of religious homage throughout the islands of the Pacific. They were supposed to add much to the power and influence of the idol, or relic, to which they were attached.'

Maui.] The island of Maui, or *Mowee*, is separated from the northern shore of Hawaii by a strait about 24 miles across. It is, by a low isthmus, divided into two parts each of a circular form; but that on the east is double the size of that on the west. The whole country has a beautiful appearance: the plains exhibiting marks of the most luxuriant fertility, while the mountains rise into numerous peaks of the most romantic forms, and so high as to be seen at 90 miles' distance. The northern side of the island affords no soundings; but on the western part of the lesser peninsula is found a spacious bay with a sandy beach.

Oahu.] Oahu, or *Woahoo*, although only of secondary size, has become the most important island in the group, both on account of its superior fertility, and because it possesses the only secure harbour to be met with in the Sandwich islands. In consequence of this, and of the facility with which fresh provisions can be procured here, almost every vessel navigating the Northern Pacific puts in here to refit. Tamehameha, the king, formerly resided at Waititi, and great part of his navy were hauled up on the shore round the bay. Three miles W. of Waititi, is the town of *Honoruru*, now the capital of the island, and residence of the king, containing a population of between 6,000 and 7,000 souls. The harbour is formed by the reef, which shelters it from the sea, and the ships can ride within, in any weather, upon a fine sandy bottom. On the eastern side of the basin is a strong fort mounting 60 guns. The town consists of several hundred houses, and is well-shaded by cocoa-nut trees. The king's residence is built close upon the shore, and surrounded by a palisade on the land-side, and is distinguished by the British colours. The palace consists merely of a range of huts: viz. the king's eating-house, his sleeping-house, the queen's house, a store, a powder-magazine, and guard-house, with a few huts for the attendants, all constructed after the fashion of the country. There are 12 or 14 merchants, principally Americans, who have established warehouses here for foreign goods. Owing to the flatness of the country the water is brackish, and there is none fresh to be had within several miles of the place. Ships, however, are supplied at a moderate rate by the natives, who bring it from the springs in calabashes. Pearls and mother-of-pearl shells are found on some parts of the coast in considerable quantity; but since the king has learned their value, he has kept the fishing to himself, and employs divers for the purpose. The flat land along shore is highly cultivated. Arrow-root forms the chief object of husbandry, being a principal article of food among all classes.[2]—About 6 miles to the W. of Honoruru is a small circular lake, which is so impregnated with salt, that twice in the year the natives take out of it between 200 and 300 barrels of clear, hard, crystallized salt. It furnishes a valuable article of commerce, but is monopolized by the king.

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[2] The mode of culture is extremely laborious, as it is necessary to have the whole field laid under water. It is raised in small patches, which are seldom above 100 feet square; these are surrounded by embankments, generally about 6 feet high, the sides of which are planted with sugar-canes, with a walk at top; the fields are intersected

by drains or aqueducts, constructed with the greatest labour and ingenuity, for the purpose of supplying the water necessary to cover them. The ground is first carefully dug and levelled with a wooden spade, which the labourers use squatting on their hams and heels. After this it is firmly beat down, by treading it with their feet till it is close enough to contain water. The plants are-propagated by planting a small cutting from the upper part of the root with the leaves adhering. The water is then let in, and covers the surface to the depth of 12 or 18 inches; in about 9 months they are ready for taking up.

THE

HISTORY OF GEOGRAPHY.

GEOGRAPHY, like every other science, has reached its present state of advancement by a gradual development. Rude and limited in its beginnings, it has received gradual accessions in every age and almost every country; nor is it by any means to be yet regarded as a perfected science. The history of its rise and progress, and of its actual state at the present day, will form the subject of the following chapters, and naturally arranges itself under three heads: viz. 1*st*, The Geography of the Ancients, or the history of the science from the earliest records we possess till about A.D. 500; 2*d*, The Geography of the Middle Ages, that is, from the latter epoch till the discovery of America; and 3*d*, Modern Geography, or the history of the science from that event to the present time. It is evident that the inquiry into the rise and progress of Geographical science, upon which we are now entering, is not one of mere curiosity alone, but will illustrate the history of the human race, and the progress of civilization, in an eminent degree, while, at the same time, it will enable us to detect the errors of the earlier writers in this science, and generally to separate the inaccurate from the accurate, the conjectural from the ascertained, in our Geographical investigations.

CHAP. I.—GEOGRAPHY OF THE ANCIENTS.

Geography of the Hebrews.] The earliest Geographical records we possess are contained in the Sacred writings. Moses informs us that, after the deluge, the earth was peopled by the descendants of Shem, Ham, and Japhet, the three sons of Noah; and, in the 10th chapter of Genesis, he supplies a great number of interesting geographical and ethnographical notices of the various countries and nations of the world as then known. It does not appear, however, that his knowledge on these subjects extended as far eastwards as the confines of India, or northwards beyond the Caucasus. The institutions of the Hebrews were, indeed, in their general spirit, rather calculated to discourage intercourse with foreign nations, and consequently to check the progress of geographical science; but from the book of Genesis it is evident, that commerce was understood and practised in the days of Abraham; and it would appear from the book of Job, that both internal and maritime commerce were known at a very early period in Arabia and the neighbouring countries—and that the former, as at the present day, was conducted by caravans. In chap.

vi. 19. Job—whom the best authorities allow to have been contemporary with Jacob—mentions 'the companies (caravans) of Sheba and the troops of Tema,' which, like those of the Ishmaelites, carried on commerce with Egypt and Canaan. In that chapter he compares his friends to those deceitful brooks which overflow their banks on a sudden in the rainy season, but which in the dry and sultry season, when they are most needed, fall suddenly and afford no water, and thus disappoint the weary and thirsty travellers, who, journeying through the parched desert, and turning thither for refreshment, go away confounded and ashamed. "The troops of Tema looked, the companies of Sheba waited for them: they were confounded because they had hoped; they came thither, and were ashamed." These deceitful brooks lay just in the line of road which the modern caravans take in going from Mecca to Damascus, or Cairo. In chap. ix. 26. vessels—which imply commerce—are mentioned. "My days," says the patient and suffering patriarch, "are passed away as the swift ships," or "ships of desire." This, however, though a very beautiful poetical image, is not the exact meaning of the original, according to the very learned Albert Schultens, who, in his Commentary on Job, translates the phrase, "Ships of canes, or of the papyrus;" that is, light vessels constructed of rushes, such as were used in sailing up and down the Nile, and other great rivers and arms of the sea. These were perhaps the earliest ships of antiquity—the first rude attempts of the human race at navigation. Another instance of the early existence of maritime commerce is given in chap. xxviii. 4. where Job gives an account of the daring spirit and ingenuity of men, how they cross the broad rivers and arms of the sea for the purpose of commerce—where there is no path for the foot of man—where they lessen to the sight, and are tossed upon the waves. The literal rendering of the 4th verse, according to the learned Mr Peters, in his Critical Dissertation on this very ancient book, is the following:—"The flood interrupts from the people (the stranger people) forgotten of the foot, they appear less than men, they are tossed."[1]

Geography of the Phœnicians.] Next in antiquity to the era of Job, and the earliest in the records of profane history, is the era of the Phœnicians. Whether these noted navigators and mercantile adventurers were the descendants of Cush or Canaan, it is impossible to determine. The general opinion is in favour of the latter supposition: I rather incline to the former, and think that they were a band of adventurers from the Persian gulf and the Erythræan sea, who came and settled on the maritime coast of Syria—which from them obtained, at a very early period, the name of Phœnicia—and who mingled themselves with the aboriginal natives, the descendants of Canaan, and thus became confounded with the Canaanites of Sidon. It is surely reasonable to think, that as the plain of Shinar was the first place where the human race congregated and dwelt, the Persian gulf would be the scene of the first rude attempts at navigation. The Phœnicians, who, Herodotus says, came originally from the Erythræan sea, I believe to have been Cushites, who, having successively explored the Persian gulf, the Erythræan and the Red seas, and even crossed over into Africa by the narrow strait of Bab-al-Mandab, as already mentioned in our remarks on the book of Job—finally crossed the tract between the gulf of Aila and the Mediterranean, and there finding a new channel for commercial enterprise and foreign adventure, settled in the vicinity of Sidon. But though it can never be satisfactorily ascertained whether the Phœnicians were Cushites or Canaanites, this much may be safely affirmed, that they were Hamites. If the common opinion that the Phœnicians were Canaanites dispossessed of their country by Joshua, and consequently forced to betake themselves to commerce for subsistence, being cooped up in the narrow stripe intervening between Mount Lebanon and the sea, and extending from latitude 34° 26′ to 32° 50′ be admitted, it would fix the origin of Phœnician commerce at too late a period; for, express mention is made of their commerce by the prophetic Jacob, when blessing his twelve sons. "Zebulun shall be an haven for ships, he shall dwell at the haven of the sea, and his border shall be unto Zidon." Moses himself tells us that Tarshish, (wherever it was situated,) was visited by the Phœnicians. Now, if the Phœnicians were noted as a commercial people by Jacob and Moses, before the Exodus from Egypt, it necessarily follows, that the hypothesis of Sir Isaac Newton and his followers, in the system of chronology which they adopted, must be entirely erroneous, as it makes the Phœnicians to be Edomites, expelled their country by David. On the above hypothesis, the era of Maritime commerce did not commence till about the time of the foundation of the Jewish temple, or little more than 900 years before Christ, for so low is the date of its erection fixed by Newton. At what period the first distant voyage of the Phœnicians on the wide expanse of the Mediterranean sea took place cannot be ascertained. The order of time in which their voyages were made, as well as their object and results, are very imperfectly known, they being performed long before the era of prosaic narrative or history. It is certain, however, that in very early times they either traded to, or formed colonial and mercantile establishments in Cyprus and Rhodes, and subsequently in Gaul, Sardinia, Sicily, and Greece, together with the southern part of Spain. Nearly thirteen centuries before the Christian era, the Phœnicians had ventured beyond the straits of Gibraltar, and Bochart has traced their progress along the western and northern shores of the Spanish peninsula. About the same time they founded colonies on the western coast of Africa. But the greatest proof of the antiquity and extent of Phœnician commerce is derived from Scripture, which informs us that Solomon made a navy of ships in Ezion Geber, which is beside Eloth, in the land of Edom, on the shore of the Red sea; that Hiram (the Tyrian monarch) sent to this navy his servants, shipmen that had knowledge of the sea, with the servants of Solomon, and that they came to Ophir, and fetched thence gold, 420 talents, and brought it to king Solomon, with algum-trees and precious stones. The same facts are recorded in the book of Chronicles, with the additional fact, that the ships of Solomon went to Tarshish, with the servants of Hiram; "Every three years came the ships of Tarshish, bringing gold and silver, ivory, and apes, and peacocks." Much difficulty has occurred in fixing the site of *Ophir;* some placing it in Arabia—some in the East Indies—and some on the eastern coast of Africa; and the question, Where was Ophir, is not yet clearly ascertained, and probably never will. It seems evident, however, that the Ophir frequented by the ships of Solomon and Hiram, and conjoined in the account with Tarshish, is not the same region with the Ophir of the book of Job, which was so called from Ophir, the son of Joktan, and brother of Havilah, who must not be confounded with another personage of the same name, the son of Cush, who gave his name to the tract so called, which was encompassed by one of the rivers of Paradise, and which lay at a great distance from Arabia Felix, the abode of the sons of Joktan.[a] In the days of Job, navigation was only in its infancy; and the Ophir frequented by the fleets of Solomon and Hiram lay at a much greater distance from the head of the Red sea than the Ophir mentioned by him. Mr Bruce has laboured to prove, with much ingenuity and erudition, that the Ophir of Solomon was the modern Sofala, on the eastern coast of Africa, near Zanguebar. His hypothesis is by no means new, having been started a century before he was born; but he has taken great pains to show—what had not been previously done—that the voyage was performed entirely by means of the monsoons, and therefore could not but occupy the term of three years, mentioned in Scripture. If it could be proved that in the days of Solomon such a voyage as that to Sofala could not be made but by the monsoons, and that the vessels employed were so constructed as to be able to sail only before the wind, it would go far to determine the point in favour of Sofala being the Ophir of Solomon and Hiram; but it is impossible to prove this, from the want of facts respecting the state of navigation in those days. As Tarshish is joined with Ophir, Mr Bruce fixes its site in the vicinity of Melinda, on the same coast, and quotes the Abyssinian annals to prove it, where it is recorded that Amda Sion, making war on that coast, reduced the Moorish chief of Tarshish. This fact, if true, is a strong additional proof that the modern Sofala corresponds to the ancient Ophir, as no eastern Tarshish had been hitherto discovered by any commentator and geographer, whether ancient or modern. The Greeks and Romans had never heard of a place so called on the S.E. coast of Africa. But the proofs advanced in favour of this hypothesis, by Bruce and those who preceded him, however plausible and ingenious, have been ably combated by the learned Dr Doig. This gentleman supposes that the Tarshish of Solomon and Hiram was the ancient Bætica (Andalusia) in Spain, and that Ophir lay somewhere to the W. of the cape of Good Hope. It is agreed on all hands that Tarshish the son of Javan, or his immediate descendants, settled in Asia Minor, Italy, and Spain, countries in a directly contrary position to the Tarshish of Bruce mentioned above. The inhabitants of Tarshish are every where in sacred Scripture said to be addicted to navigation and commerce, in which they seem to have been connected with the Tyrians and Phœnicians, who were always said by the Jews to inhabit the isles of the sea. We are told by Moses, that by Elishah and Tarshish, Kittim and Dodanim, the sons of Javan, were "the isles of the Gentiles divided in their lands." In Hebrew geography all the countries N.W. of Palestine, and divided from it by the sea, were called the Isles of the Sea. In Isaiah we find Tarshish connected with Chittim, and Sidon, and Tyre. Now whether Chittim was Macedonia, or Greece, or Cyprus, it is at any rate clear that it lay in the west. It is also clear from Ezekiel xxvii. 12, that the inhabitants of Tarshish traded in the markets of Tyre with silver, iron, lead, and tin. As a farther proof that Tarshish lay very far west of Judea, the conduct of the prophet Jonah may be quoted. Where did he intend to go? To flee to Tarshish. Where did he embark? At Joppa. Now Joppa was the sea port of Judea on the Mediterranean. It is exceedingly improbable that Tarshish here mentioned was the Tarsus in Cilicia, for that city lay north from Joppa, at no greater distance than 5°. It is much more likely, therefore, that the Tarshish of Scripture was Tartessus in Spain. There were three cities so called by the ancients, one of which was situated at the mouths of the Guadalquivir, or Bætis, in Andalusia. The other two were founded by the Phœnicians, but the first they found already built by the immediate descendants of Tarshish, who gave it this name from their father the son of Javan. In this delightful region of Andalusia, were the Elysian fields of the Pagan poets, who derived their descriptions from the Phœnicians, who denominated the tract in the vicinity of Tarshish, *Mechos Elysoth*, 'the Land of Joys.' Long before it was known to the Romans, the ease and affluence of the princes of Tarshish, had passed into a proverb in the days of the Teian bard.

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[1] The word *Nahal*, here rendered flood, means a narrow arm of the sea, which, dividing nations from each other, interrupts their commerce, and which cannot be surmounted but by the aid of navigation and the spirit of the intrepid mariner who boldly ventures to cross it. This is eminently descriptive of the strait of Bab-al-Mandab, which is but a few leagues across, and separated Abyssinia from Arabia Felix—the very country in which lay the Ophir mentioned in the chapter.

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[a] The word *Ophir*, according to the learned Bochart, signifies *rich*, *wealthy*, and is deduced by him from the Arabic verb *vaphura*, "to abound in wealth;" hence the Arabic *Auphar*, *Auphir*, whence, in all probability, the term *Africa* is derived.

> My wish—were wishes to be got
> Is not for Cornucopia's store,
> Nor o'er Tartessus be my lot,
> To reign a hundred years or more.

That it was actually furnished with those articles mentioned in scripture, all the authors of antiquity who have mentioned that region attest. They describe it as the native land of silver, lead, iron, and tin, as also of gold in very large quantities. For further argument on this much disputed topic, I beg to refer the reader to my supplementary dissertation on the commerce of the ancients in my edition of Rollin's Ancient History.

Geography of the Egyptians.] The Egyptians, however renowned in antiquity as a learned and scientific people, among whom the arts and sciences had been successfully cultivated for ages while all the rest of the world was overspread with darkness, directed the resources and energies of their country chiefly to agriculture, and for a long time manifested a decided aversion to maritime pursuits. At a very remote period, indeed, they had discovered the elementary truths of geometry; but their geometrical science does not seem to have been applied to the purposes of astronomical or physical geography. "The Egyptians," says Malte Brun, "were able to draw meridian lines; and the periodical inundations of the Nile compelled them to have recourse to topographical plans of their country; but such an application of geometry does not necessarily suppose that any geographical ideas existed among a people who, in fact, regarded the sea and the art of navigation with horror." Plutarch informs us that they symbolized the sea, under the image of Typhon or the Evil demon; and that their ecclesiastical personages abstained from eating fish, and never made use of salt, accounting it the froth of the malignant principle. "The ancient kings of Egypt," says Strabo, "were satisfied with the productions of their own country, hating all navigators." As little were they inclined to make foreign conquests. We are told, indeed, by Apollonius Rhodius, in his Argonautics, that an Egyptian conqueror caused his route to Ola, the capital of Colchos, to be engraved on tablets, and left them there as a proof of his conquest,—and further, that on these tables the whole extent of the roads he had pursued, and the limits of the land and sea, were marked out; but it is passing strange that, if such maps really existed, the Argonauts should not have found their way home by the aid of them, but, as all authors agree, wandered entirely out of the proper course; and our authority for the whole, namely that of a poet who lived more than ten centuries after the supposed date of the Argonautic expedition, is strongly questionable. The date of the reign of Sesostris is very uncertain, and his whole history is so intimately blended with fable, that it is exceedingly difficult, or rather impossible, to distinguish betwixt what is true and what false in it; that an Egyptian prince should have conquered all the intervening nations from the Nile to the foot of Mount Caucasus, and engraved a map or maps of his marches and conquests at an era almost as ancient as that of the Exodus, does not easily admit of belief, and till better evidence can be adduced on the subject than has yet been offered, we must regard the whole alleged expedition as only another of the numerous and daring poetical fictions of the Greeks. After the time of this mythic personage,—for his existence is long anterior to all legitimate profane history,—the only thing we can learn is, that the Phœnicians carried on a lucrative commerce with Egypt; and for a long time they were the only people to whom the ports of Egypt were open, as we learn from Homer and Herodotus. The Egyptian commerce, therefore, was wholly engrossed by foreigners; for though colonies migrated from Egypt to Greece, yet these kept up no correspondence with the parent state. Horses, and fine linen, in the days of Solomon, constituted a chief part of Egyptian exportation. The era of Psammitichus is the first period in the history of Egypt when decisive measures were adopted to root out the ancient and long continued antipathy which the Egyptians entertained against intercourse with foreigners, and from this time may be dated the commencement of Egyptian commerce. Psammitichus was the first king of Egypt that opened his ports to foreigners in general. Commerce with the Greeks he particularly encouraged, though afterwards, either from jealousy of that people, or the still operating antipathy of the Egyptians to foreigners, the Greeks were not suffered to enter any port but Naucrates, which they had been permitted to build for the residence of their merchants, and convenience of their trade. This city lay on the Canopic mouth of the Nile, and if a vessel entered any other mouth of the river, the master was obliged to return to the Canopic branch; or, if the wind did not permit this, to unlade his vessel, and send his cargo to Naucrates by the country boats. Pharaoh Necho, the grandson of Psammitichus, was a monarch bent on maritime commerce, which is evinced by the history of his whole reign. For this purpose he attempted to unite the Mediterranean and Red seas by a canal, but failed in the attempt. He employed Phœnician mariners to circumnavigate Africa, and kept a large fleet in both the Red sea and the Mediterranean. In the reign of Pharaoh Hophra, grandson of Necho, the Egyptians had the command of the Mediterranean sea, and had they continued long after this a free and independent nation, they would undoubtedly have been still more famous for their maritime and commercial superiority; but the devastations of Egypt by the arms of Nebuchadnezzar, and the subsequent reduction of that country by Cambyses, for a time arrested their career, and annihilated the political existence of the Pharaohs, or native sovereigns of the country. It has been well remarked by Dr Vincent, that while Egypt was under the dominion of its native princes, Sidon, Tyre, Arabia, Palestine, Cyprus, Greece, Sicily, and Carthage, were all enriched by the trade carried on in its ports, and the articles of commerce which could be obtained there, and there only. The natives themselves were hardly known in the Mediterranean as the exporters of their own commodities. They were the Chinese of the ancient world; and the ships of all nations but their own laded in their harbours. As soon, however, as Egypt passed to the Persians, Macedonians, and Romans, it furnished large fleets; and under the Ptolemies, Alexandria rose into importance as the first commercial city in the world.

Expedition of the Argonauts.] The Argonautic expedition to Colchis, on the Euxine sea, though blended unquestionably with much that is fabulous, is generally considered to be the commencement of authentic Greek history of maritime enterprise and geographical discovery. The era of this expedition is usually placed about 1280 or 1263 B.C.; but traditions remain which indicate that Jason, its commander, was not the first Greek who attempted a similar voyage. It is not easy to determine whether Jason's motives to this enterprise were piratical or commercial. Its avowed object was the *Golden Fleece;* but what that was can only be conjectured.[3] It is certainly difficult to conceive how the Greeks of that age, a rude and barbarous race, could engage in such a distant commercial speculation; and it is equally so, how they could venture on a plundering expedition so far from home, and through a dangerous and difficult sea, when that propensity could be easily gratified nearer their own shores. That the mountainous country of Colchis then abounded in the precious metals is well-known; and the gold and silver mines to the south of Trebisond are still wrought with profit. The report of this metallic wealth had probably reached the Greeks, and excited their avarice,—as in modern times the report of an El Dorado, in South America, roused the cupidity of a Raleigh. But whatever was the real object, the fact of such a naval adventure is believed by the generality of historians and chronologers. In their course to the Euxine sea, they visited Lemnos, Samothrace, Troas, Cyzicum, Bithynia, and Thrace. Such wanderings evince Grecian ignorance of the navigation of those seas. From Thrace they steered their course direct to the Euxine sea. The Cyanian rocks, four or five leagues from the entrance to that sea, previously deemed impassable, were passed by these adventurers without danger and difficulty, and their due situation and form ascertained. They then entered the Euxine, where they seem to have been driven about for some time, till they discovered Mount Caucasus, which served them as a landmark to the entrance of the Phasis, when they anchored near Œaa, the capital of Colchis. The Euxine sea, it appears from Mimnermus, was anciently thought to be the ocean; its eastern and western shores were unknown to Homer; and succeeding ages were taught to believe that the Argonauts returned to Greece, not by the Hellespont, but through the ocean. With regard to the adventures which befell them on their passage homewards, so much contradiction and fable have clouded the narrative, that it would be useless to attempt its elucidation. Some writers represent the Argonauts to have ascended the Tanais; Pindar transports them to the Erythræan or Southern ocean, and makes them reach the Mediterranean by dragging their vessel over the Libyan continent. Hecatæus supposes that Jason sailed through the Phasis into the ocean, and from the ocean into the Nile; while later poets conducted him up the Danube and Save, and overland into the Adriatic.

Geography of the Homeric Age.] The geographical descriptions of Homer, in the Iliad and Odyssey, form the next epoch in the history of geographical science. In the Homeric cosmography, says the learned editor of the 'Edinburgh Geographical and Historical Atlas,' "the earth was represented under the form of an immense disc or circular plain, surrounded on all sides by the *River Ocean*. Upon the circumference of this circle rested the solid vault of the firmament, under which rolled the sun and the stars, in chariots borne by the clouds; while, on the opposite side, and corresponding to the firmament, was the vault of *Tartarus*, including, not the abodes of the dead or the caverns of *Hades*, but the residence of the Titans, the enemies of the gods, and impenetrable alike to the breath of the gale or the light of heaven. But, to an inhabitant of the coast of Asia Minor, or the Grecian archipelago, the sun appeared to rise from the eastern ocean, and having performed his journey beneath the vault of 'the o'erhanging firmament,' to descend into the same circumambient element towards the west. Accordingly, the ocean was conceived to be the *bed* whence he arose in the morning, and to which in the evening he sunk to repose. But a difficulty here occurred; namely, how, after going down in the west, the same sun could re-appear in the opposite quarter of the horizon, and perform anew his circuit. To meet this difficulty was invented the fable, or hypothesis, that the bright luminary of day, on his descent in the west, was received in a vessel of gold fabricated by Vulcan, which conveyed him rapidly by the north towards the east, which he reached in time to recommence his daily journey. A more extravagant solution cannot easily be imagined; yet it seems to have taken firm hold of popular belief, and to have maintained itself among superficial inquirers long after the researches of the learned had established beyond a doubt the spherical form of the earth. Even Tacitus, who, in regard to moral and political subjects, cannot be taxed with credulity, though his ignorance of physical science betrays him occasionally into that weakness, seems inclined to concur in the belief ascribed to the Suiones, that they nightly heard the sound of the chariot of the sun, and saw the forms of his horses, and the rays of his head (*radii capitis*), as he drove through the waves of the Northern ocean to his palace in the east. In the Homeric cosmography, the limits of the world were naturally involved in the greatest obscurity. The pillars of heaven and earth, of which Atlas was the guardian, rested, it is not easy to say upon what foundation; and although succeeding poets adopted and repeated the fable, it disappeared from the geographical systems posterior to Homer. Beyond the mysterious girdle which bounded the earth, extended indefinitely the dominions of chaos, a gulf where all the elements of heaven, of tartarus, of the earth, and of the sea, were jumbled together, and which even the gods themselves regarded with fear. At the extremity of the west, of the north, and of the east, was placed an imaginary people, called the Cimmerians, who dwelt in perpetual darkness, and from whose dismal abodes Homer, according to Plutarch, drew his images of hell and Pluto. This termination of the world in darkness and in chaos, accords with the natural impressions of the human mind, and continued long to be a prevailing delusion. The Arabian geographers gave to their circumambient ocean the appellation of the Sea of Darkness; and several of the early European navigators, engaged in exploring unknown seas, stopped short when the atmosphere became unusually obscured, under an apprehension that they were approaching the boundaries of light and of existence.

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[3] It has been conjectured that the story of the Golden Fleece had its origin either in a miscomprehension, or a play upon words: Phœnicians probably took part in the expedition, and the word which signifies *wealth* or *treasure* in the Phœnician language *(maion)*, very nearly resembles that which, in Greek, means a fleece (*mallon*).

"Homer appears to have considered Greece as situated near the centre of the disc or circular plain of the earth. He names all the states of

Greece, and particularly distinguishes Thebes, Athens, Corinth, and Lacedæmon; he mentions Macedonia, and is well acquainted with the Cyclades and larger islands; but his description of the western coasts of Greece, N. of Etolia, is confused and obscure. Sicily was known to him by the name of *Trinacria,* and as the habitation of the one-eyed race of the Cyclops. The straits which separate Italy from Sicily are made by him the western limits of the Mediterranean, and 'the portals which conduct to the regions of fable,' for all beyond them partakes of the marvellous in his relations. His Elysium, where yellow Rhadamanthus reigned, is the coast of Andalusia; his Lotophagi inhabited the coast of Libya between the Greater and Lesser Syrtis. To the N. and N.E. of Greece he mentions the Thracians and Mœsians, and the Cimmerians who inhabited the land of darkness; but he merely hints at the existence of Colchos and the Euxine. The western coast of Asia Minor is minutely described by him; and the isles of the archipelago and eastern basin of the Mediterranean, along with the coasts of Phœnicia and Egypt, lie fully within the compass of his knowledge. The fame of Egypt, and her hundred-gated Thebes, afford our poet a fertile theme. To the W. of Egypt he places Libya and the Erembi, where he correctly says the lambs are born with horns, and the sheep bring forth three times a-year. To the S. he places Africa and Ethiopia, describing the Ethiopians as 'the farthest of men,' who are divided in two, some under the rising and some under the setting-sun. To the N. he describes the Hyperboreans, as living in the same manner as the Scythians and Modern Tartars still do. His knowledge of inland geography seems to have been very confined, and as his geographical descriptions are chiefly maritime, his knowledge must have been principally procured from the Phœnicians. By residing in Greece and making short voyages among the islands, or even down to Egypt, he never could learn that the earth was surrounded by the ocean,—that the sun rises and sets in the ocean,—that the ends of the earth are upon the ocean,—and that the Ethiopians are the last of men who dwell upon the ocean. These things he could only learn from a commercial people, such as the Phœnicians, who alone could be supposed at that time to know the limits of the habitable world, and relate them to a curious and inquisitive person. There is no mention made of Babylon or Nineveh in all his poems, which he surely would never have neglected to do had he known any thing of their wealth or magnitude. 'Homer,' says Strabo, 'had no knowledge of the Syrian, (Assyrian,) nor of the Median empire. For he who names the Egyptian Thebes, and celebrates the wealth of it and of Phœnicia, would never have passed over in silence the grandeur of Babylon or of Ninus (Nineveh), and Ecbatana, had he known any thing of these kingdoms.' With Strabo's good leave, however, it is a question with me if these empires then existed; and if they did not, how in that case could Homer know them? It is past doubt with me that the Median empire did not exist for several centuries posterior to the Trojan war; and as for Ecbatana, if it really then existed at all, it was a city of no political importance till the 6th century before Christ. Whatever countries Homer personally visited, as Greece and the N.E. coast of the Mediterranean, in these he names all the towns and rivers, and describes their situations and their soils; one country is rocky and mountainous, another fertile and plain,—one is dry and sandy, another moist and verdant; this is productive of sheep, that abounds with horses; a third swarms with pigeons, and a fourth is blessed with beautiful women."

Geography of Herodotus.] We have no further light respecting the progress of geographical knowledge among the Greeks till the days of Herodotus, who has been justly denominated the father of history, and might with equal justice receive the appellation of the father of geography. Herodotus read his historical books—which were named from the muses —before the Athenian senate, in the year 445 B.C. A native of Halicarnassus, a small commercial town of Caria, and probably himself originally a merchant, he caught the adventurous spirit of his fellow-citizens; and animated by the love of learning, imbibed probably from his uncle Panyasis, an epic poet whom the critics of antiquity ranked next to Homer, as well as disgusted by the oppressive tyranny exercised over his fellow-citizens by Lygdamis, he resolved to gratify his thirst for information by travelling. He set out in his 25th year, and extended his inquiries into every quarter of the then known world. He visited the Greek colonies on the north side of the Euxine, and even travelled over a considerable portion of Southern Russia, having explored the tract between the Hypanis or Bog, and Borysthenes or Dnieper, as also the shores of the Palus Mæotis, or Sea of Azof. "In the East his journeys reached as far as Babylon, and Susa the capital of the Persian monarchy; Tyre also detained him for awhile; but Egypt, still the chief seat of arts and learning at that time, chiefly arrested his attention, as appears from his minute and accurate account of its religion, government, manners, customs, and monuments. Tyre was also visited by him, and the Grecian colonies planted at Cyrene in Libya. He seems to have travelled over Greece into Eastern Europe; but there is no proof that he traced the course of the Ister, or Lower Danube, from its mouth to nearly its source, as Mr Stevenson asserts. He describes the country beyond the Ister as a vast and boundless space inhabited, as far as he could learn, by the Sigynæ, who reached on the other side to the Vevets on the Adriatic. The Scythians, too, spread over the country near the Tanais or Don, were attentively surveyed by him; and he affirms, that "in the N. of Europe there are many wonderful things; and a prodigious quantity of gold." In Italy he knew Umbria and Liguria from report, but had heard nothing of Rome. Of the western coasts of Europe and the situation of the Cassiterides he frankly avows his ignorance respecting their detail. He had heard of the Celtæ who lived beyond the columns of Hercules, and who bordered on the Cynesiæ, but nothing more. Of the amber of Prussia he had also heard, which he says came from the river Eridanus, which runs into the North sea, (the Baltic.) Iberia or Spain, and Tartessus, are mentioned by him, but merely so. With the isles in the Mediterranean collectively taken he was well acquainted. South of the Baltic, he supposed the ocean to run eastward in an indefinite line, as far as his own knowledge extended. This formed the boundary of his Europe north of the Hyperboreans, in the parallel of 60° N. lat. Europe in his estimation far exceeded in length the other divisions of Asia and Africa, though in breadth, it was inferior to either, and on the whole, he affirms that Europe was larger than Asia. In his opinion, Europe extended along the north of Asia, the Colchian Phasis being the boundary. From this point the boundary was carried eastward as far as his own knowledge extended, to the south of the Issedones. The Gryphins, the Arimaspi, and the Issedones, formed the north-eastern limit of Europe and of his knowledge. Rennel, identifying the Issedones with the Eluths, and fixing the Arimaspi at the source of the Irtysh, and the Gryphins in Southern Siberia, carries the knowledge of Herodotus to the heart of Central Asia; but there seems good reason to doubt the correctness of the major's theory respecting these ancient Scythian tribes, and to question if the knowledge of Herodotus extended farther than the foot of the Beloor Tag, or the western declivity of Central Asia, and northwards beyond the Riphæan mountains. We may conceive a line drawn from the most eastern branch of the Indus to the Chaliscuteli range—from thence N.E. alongst that range, to the 29th degree of north lat.;—thence a small distance N.W. to the confluence of the Hyphasis and Acesines at Ooch—thence to Mooltaun, on the Acesines—thence to the Indus W., up the course of that stream as far N. as Attock—thence across the Indus, and westward alongst the northern bank of the river of Caubul to its junction with the river of Khaushkur—up that stream, to its source S. of the Oxus—and thence alongst the western foot of the Beloor Tag, to the fountains of the Jaxartes. This line will represent the eastern limit of Persian domination, and of the Asiatic geography of Herodotus. Of the Punjaub I conceive he knew almost nothing. He did not even know that India produced elephants, or that it was bounded on the N. by the vast Imaus. The Issedones are placed by Herodotus to the N. of the Massagetes, and occupied northern Turkestan, or the tract now occupied by the Great Kirghisian Horde, N. of the Jaxartes, and W. of the Beloor. From this point the Beloor passes N. and joins the Alak Taug, or Speckled Mountain. Thence the chain is prolonged northward to the western extremity of the Great Altaian range. Here three ranges meet—the northern termination of the Beloor—the western extremity of the Altaian range—and the S.E. termination of the Ulugh Taugh, which runs N.W. from this central point to the Ural-Tau, dividing the steppe of Ischim from that of the Middle Kirghisian Horde. I conceive this line, from the source of the Jaxartes, to the Riphæan range or Ural Taugh, to be *the E. and N.E. limit of the geographical knowledge of Herodotus.* In assigning the limits of Herodotus' geographical knowledge in Asia, we must leave out all India E. of the Registan, or country of Sand, and the whole of central Asia and China, together with the whole of Siberia. In Europe, all beyond 60° N. lat. must be deducted, as also all that part of Europe which lay W. of the Lower Danube, between the Alps and the Baltic. In Africa, all to the S. of the equator, and to the W. of the parallel of Carthage. He was also ignorant of the existence of the Persian gulf, as he describes the Euphrates as falling into the Erythræan sea, or Indian ocean. He is singularly correct in his classification of the inhabitants of Africa, dividing them into two great bodies, Africans and Ethiopians—the latter being placed south of the former, or the Moors and Negroes, which is exactly the case at this very day.

"The work of Herodotus," says a recent writer in Lardner's Cabinet Cyclopædia, "forms the most precious gift which has ever been conferred on the literature and philosophy of any country in their age of adolescence. It embodies a great deal of historical information, with a multitude of remarks on manners and natural objects, written with singular liveliness and candour, and collected from all the nations with which the Greeks at that time had any acquaintance. The communicative ardour of the father of history was not damped by any sceptical misgivings; what he had gathered laboriously he poured abroad freely for the consideration of riper ages; and if he sometimes relates with too much gravity what common sense cannot credit, it must be remembered that the hardihood of credulity is best fitted to pioneer the road of knowledge, and that the cautious tread of critical discrimination can follow only in a beaten path. It is remarkable, that an author whose information reached into the heart of Russia, to the Ural mountains and the sea of Aral, to the confines of Tartary and of India, to the negro nations inhabiting the banks of the Nile, and even to that mysterious river which waters an almost hidden world beyond the great desert, should have scarcely any knowledge of the nations in the west of Europe, and should speak even of the neighbouring peninsula of Italy in obscurer terms than of that of Arabia. But as civilization advanced towards the West, the train of light which marked its progress still shone in the opposite direction; and the Greeks naturally turned their eyes to that quarter of the globe where the maturity of the social state, and the astonishing monuments which existed of human power and ingenuity, offered an endless source of gratification to their curiosity. In the age of Herodotus the commercial character of the Greeks was already fully developed: they had established themselves in all the shores of the Euxine; they had penetrated even into the country of the *Budini*, some hundred miles up the *Tanais*, where, in the midst of nomad tribes, they had built themselves a great city entirely of wood; they maintained an occasional intercourse with the people bordering on the Caspian; and passed through so many different nations in these commercial visits, that they were obliged to employ, we are told, no less than seven interpreters in their course. In Persia a colony of Greeks had been established by Xerxes, and was cherished by him as the only fruit of his expedition. In Lower Egypt they were numerous from an early age. Thus the lively and enterprising spirit of his countrymen offered great facilities to Herodotus in pursuing his researches in various quarters: they probably served him as interpreters; and it is only by supposing the absence of such aids that we can explain his total silence respecting Jerusalem, and the scantiness of his remarks on Tyre and Carthage. The forbidding temper of the Jewish religion, the jealousy of commercial monopoly, and the difficulties of a strange language, could alone have veiled from his view objects so well deserving his attention. It is natural that one who sought so zealously for facts should be extremely mistrustful of arbitrary hypotheses. Herodotus called in question many long-received opinions. He did not deny that the earth was a sphere, as his commentators have erroneously imagined; but he ridiculed the idea of its being a circular disk, encompassed by the ocean, as it was described by the geographers of his day. He was persuaded that the earth was not a circle; and as to the existence of "the floods of ocean," he was far from being satisfied with the authority of the poets. He thought the division into three continents extremely unreasonable, and believed that Europe (to which, indeed, he could not affix any limits towards the east), was greater than the other two continents taken together, being equal to them in length, and much exceeding them in breadth. For this opinion he has been much and undeservedly censured, for even his mistakes prove the justness and independence of his mind. It was natural for him to magnify that of which he had only an obscure perception; but his belief that Africa might be circumnavigated, which had the effect of diminishing that continent in his estimation, and his hesitation to admit such an outline of Europe as system alone would delineate, are equally to his credit. Into whatever errors Herodotus may have run when he himself ventured to speculate, he was seldom led astray by the theories of others; and he not only laid before his countrymen the most valuable accumulation of facts which the world had to that age received, but he also taught them the useful lesson how to doubt and discuss."[4]

Carthaginian Voyages.] The voyages of the Carthaginian admirals Hanno and Himilco, along the coasts of Africa and of Europe, though performed apparently long before his own time, were unknown to Herodotus. Hanno was despatched by the senate of Carthage for the double purpose of exploring and colonizing the coast of Africa beyond the straits. The fleet which he commanded, on this expedition, was composed of 60 large vessels, having on board 30,000 persons of both sexes. The Carthaginians or Lybi-Phœnician cities founded by Hanno on this occasion were all situated between the straits of Gibraltar and the Senegal river, and, with the exception of Cerne, (the Modern Arguin) lay to the N. of cape Bojadore, the Atlas Major of the ancients. Some assert that Hanno doubled the cape of Good Hope; while others limit the whole extent of his voyage to Cape Nun, near 10 degrees N. of Cerne; but D'Anville and Rennel nearly agree in fixing the limit of Hanno's voyage at the point of Sherbro' Sound, near Sierra Leone. Hanno wrote a relation of this voyage, a fragment of a Greek version of which is all that now remains. Its authenticity has been called in question on account of its stories of torrents of fire running into the sea, and females covered with hair, called Gorillæ. But the former were nothing more than the flame caused by the burning of the dry herbage—a practice common to every country belonging to warm and moist climates, where the vegetation is rank. The appearance of a river of fire running into the sea, would be occasioned by the more abundant vegetation of the valleys or ravines, which are shaded by their depth, and remain longest green. A similar phenomenon was observed by the much-lamented traveller Mr Park, in the high country of Manding, and a similar practice of burning the dry herbage is observed in Ludamar, and other Moorish countries on the southern border of the great desert of Sahara. It may also be observed, that a similar practice has, from time immemorial, been adopted by the Indians of the United States, to the E. and W. of the Mississippi. Respecting the hairy women—called Gorillæ, Hanno's interpreters, *Gorgons*, by Diodorus Siculus, and *Gorgades* by Pliny—it is plain that they were apes, of the species called Pongo by Buffon. The male Pongos could not be caught by Hanno, as they fled to inaccessible precipices, and defended themselves by throwing stones. These are never taken alive. Three females were taken by Hanno, but they so annoyed their conductors with their teeth, that they were compelled to kill them, and bring their skins only to Carthage. Long before this voyage of commerce and discovery, the Carthaginians had discovered the Fortunate islands, or the modern Canary islands.

The voyage of Himilco took place in the same century with that of Hanno; unhappily but a few scattered details of it have reached us. He held his course in the opposite direction, and visited the coasts of Spain and the British islands.

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[4] There is a very remarkable fact mentioned by Herodotus respecting the state of geographical science, about half a century before he published his history, and very shortly preceding the Persian invasion. It occurs in Book v. c. 49, where he says that Aristagoras, prince of Miletus, appeared before Cleomenes, the Spartan king, with a tablet of brass in his hand, upon which was inscribed, *every known part of the habitable world, the seas and the rivers*, and to this tablet he pointed, as he spoke of the several countries between the Ionian sea and Susa. This is the first thing of the kind mentioned in history, and appears to have been a very vague, rude, and imperfect performance; but it is probable that geographical tablets of this kind, however rude and imperfect, were in use amongst the statesmen and men of science in those days. What a feast for an antiquary would not this tablet have been, had it been preserved! The curious reader may see the geography of this tablet discussed by Rennel, in his illustrations of Herodotus.

Scylax—Pytheas—Aristotle.] In the time of the Peloponnesian war, or a few years later than Herodotus, Scylax of Caryanda, collected the itineraries and journals of the travellers and navigators of his time, and reduced the information afforded by them into systematic form. His work describes the coasts of the Euxine and Mediterranean, and those of Western Africa, as far as Cerne. He mentions Massilia, the modern Marseilles, and is also the earliest Greek writer who mentions the name of Rome.—Pytheas of Marseilles made a voyage along the coasts of Spain and Gaul, and reached Great Britain, then called *Albion*, or *Al-fionn*, that is, the White Land, by the inhabitants. He appears to have coasted the southern and eastern shores; he makes no mention of Ireland, but says, that steering northwards he arrived in six days at *Thule*, which some suppose to have been Jutland, and others Norway. In the same age with Pytheas, or a little later (400 B.C.) flourished Xenophon, whose narrative of the retreat of the Ten Thousand threw much light upon the countries of Upper Asia. The writings of his celebrated contemporary, Hippocrates, who travelled through Scythia, Colchis, Asia Minor, and perhaps Egypt, with the view of studying the different effects of different climates upon the human body, added considerably to the geographical knowledge of the age, although he committed the great error of supposing Egypt and Libya to belong to Asia.—Ephorus of Cumæ, who flourished about 350 B.C. supposed the Greeks to occupy the centre of the earth; and that round them were disposed the Indians, Ethiopians, Celts, and Scythians.—Aristotle, the scholar of Plato, and founder of the Peripatetic school, contributed much to the fundamental principles of geographical science, by inferring from the observations of travellers the sphericity of the globe. He maintained that the earth is a sphere, having a circumference of 400,000 stadia;—a calculation which may be correct; but the uncertainty as to the stadium employed, renders it impossible to appreciate its merit. Reasoning firmly on the hypothesis that the earth is a globe, Aristotle appears to have suggested the voyage across the Atlantic eighteen centuries before Columbus; for he observes, that the coasts of Spain cannot be very far distant from those of India. The happy boldness of this thought was all his own, the errors of calculation belonged to his age. In his nomenclature, too, we see evidence of a juster geographical conception than was possessed by many writers of a much later age. His knowledge of the earth was bounded by the Gallic and Indian gulfs on the W. and E. by the Riphæan mountains on the N., and on the S. by the great river Cremetes, "which, having its source in the same mountain as the Nile, flows westward into the ocean." This great river must be the Senegal. Aristotle knew but little of the north of Europe, yet he is the first who mentions the Hercynian mountains; a designation which, probably, extended over the lofty ranges on the west and north of Bohemia, but which is at present retained only by the insulated mountains of the Hartz. He also makes express mention of two large islands, Albion and Ierne, situated to the north of Celtica (and he is the first writer who mentions them together, and with the common name *Brittanicæ*); but he adds, that they are not by any means so large as Taprobane beyond India, or Phebol in the Arabian sea. *Here we have a proof of his extensive information in this early mention of Taprobane or Ceylon, and Phebol, which is generally supposed to be Madagascar; but which, as Saibala is an Indian name, ought, per-*

haps, to be looked for more towards the east. Aristotle had many scholars who devoted themselves to geographical studies, and some of whom, as Dicæarchus and Theophrastus, obtained distinction by their writings; but he had the singular honour of infusing the love of knowledge into the future conqueror of Asia. The spirit of the royal pupil corresponded with the intellectual eminence of the great teacher; and the expedition of Alexander produced a greater revolution in the knowledge of the globe, than almost any other event recorded in ancient history; and more designedly, perhaps, than is generally imagined."

Alexander's Expedition.] The conquests of Alexander formed a new era in the science of geography. Of no one might it more truly be said that "geography is the science of conquerors." By means of his expeditions the Greeks acquired a detailed knowledge of Asia, from the Hellespont to the Hyphasis, and from the Persian gulf to the Jaxartes, and obtained a knowledge of the Ganges, and of India beyond the Registan, or Sandy Desert, both of which were unknown to Herodotus. In his march westward from the Indus to Susa, he employed Diognetus and Bæton,—two distinguished geometricians, as we are informed by Strabo and Pliny,—to draw up surveys of the intermediate provinces, and reduce them, as well as the marches of his army, to regular measurement, and thus the distances being accurately set down, and journals faithfully kept, the principles of geographical science next in importance and utility to astronomical observations, were established. In addition to the journals of Diognetus and Bæton,—both of whom may be styled the quarter-masters general of the Macedonian army,—were those of Nearchus (happily preserved by the judicious Arrian,) and of Aristobulus, and Ptolemy, afterwards king of Egypt. Of all these, with the exception of that of Nearchus, we have only extracts, furnished us by Diodorus, Strabo, and Arrian. Had the journals of Diognetus and Bæton been preserved entire, and had they reached our times, they would have thrown much light on the interior geography of the Persian empire, with which the moderns are still very imperfectly acquainted. A glance over the map of Asia will show that his marches northward and eastward, and the double route of his army westward,—the one under Cratorus, through the centre of the Persian empire, and the other headed by Alexander himself through the maritime provinces,—intersect the whole space by three lines, from the Indus almost to the Tigris.

Alexander is supposed to have contemplated the establishment of a commercial intercourse between Egypt and India, from the care he took to examine the navigation of the Persian gulf and of the river Indus. For the latter purpose a fleet of 800 vessels was intrusted to the command of Nearchus. By the voyage of Nearchus from the Hydaspes to the Indus, and from the Indus to the mouths of the Tigris and Euphrates, a knowledge of the hydrography of the Punjaub, the Erythræan sea, and the Persian gulf, was acquired, and the latter was no longer confounded with the former, as was done by Herodotus. A survey was also made of the Arabian or western side of the Persian gulf, by Archias, Androsthenes, and Hiero, but the details have not reached us. Hiero proceeded down the gulf, doubled Cape Mussendom, sailed down the coast below Muscat, and came in sight of Cape Ras-hal-had, which he durst not double, and then returned up the gulf. A survey was also taken of the delta of the Euphrates and Tigris, and the Eulæus or Karoon; the channel of the Tigris was also examined up as far as Opis, its highest navigable point, and that of the Euphrates, down to the marsh of Pallacopas.

"Notwithstanding," remarks the author of the elegant volume on 'Maritime and Inland Discovery,' in Lardner's Cyclopædia,—"Notwithstanding that the writings of all the Greeks (Næarchus excepted) who accompanied Alexander in India have perished, the fragments which remain are sufficient to convince us that the Macedonians were attentive and sagacious observers. Their remarks derive a peculiar interest from the way in which they illustrate how little change the lapse of twenty centuries has wrought on the manners, or even on the languages, of Indian nations. It also deserves to be noticed, that the Greeks soon became acquainted with those articles of produce or manufacture which have ever since continued to be the staple articles of the Indian trade. Næarchus observed the sugar, or honey, as he termed it, made from canes, without the assistance of bees. He also mentioned the fine-flowered cottons, rice, and perhaps silk. The Greeks became acquainted with the mode of planting rice in water, and of distilling from it the strong spirit called by the natives arrack. They knew that gold was collected in the rivers, and they learned the manner of hunting and taming the elephant. The chief peculiarities of Indian government and society appear to have been all revealed to their observation. They were aware of the division of the people into castes, that there were no intermarriages between the castes, and that trades descended from father to son. The names of the castes are not mentioned expressly by any Greek writer, but it is likely that the *Chatari* of Arrian, who occupied the country possessed by the Rajpoots at the present day, were the military caste of K'hatrees. The *pillaus* made of rice, on which the people chiefly subsisted, the custom of shampooing, that of dying the beard, the perforation of the nose, lips, and ears, the cotton turbans, the use of umbrellas, the great banyan or Indian fig-tree, under the branches of which a thousand persons may assemble, the devotion of widows to the flames, the delicate form and constitution of the natives, these, with a multitude of other particularities, amused the curious spirit of the Greeks. The philosophy of the Brahmins, and the eccentric piety of the Faqueers or Jogees, appear to have been the same then as they are now. The latter were privileged to enter every house, and even the women's apartments; they were attended by females, without the suspicion of impropriety; lived on vegetable food under banyan trees; subjected themselves to fanatical penances and disgusting tortures; and when they had at length palled the insane appetite for pain, heroically abandoned on the funeral pile the life in which they could no longer sufficiently afflict themselves. These and a thousand other extravagances, successfully employed then as well as now to win the admiration of the multitude, were viewed with mingled astonishment and contempt by the companions of Alexander. Megasthenes beheld all the riches and magnificence of India at the court of Sandracotta, or, as it is written by others, Sandracoptus, a corruption of *Chandra-Gupta*, one of the most distinguished names in Indian history. That prince had awakened a spirit of resistance to foreign sway, and had completely overturned the enfeebled dynasty of the *Bàlis* or the *Palis*, in South Bahar, who left, however, their name to the great capital of their dominions. Pliny informs us that the city *Palibothra*, as he calls it, far exceeded in wealth and magnitude the other great capitals of India, and he adds, that the same name *was not only common to the city and the people, but was also given to the prince.* This important observation has not met with the attention it deserves. Those who are acquainted with the East will perceive at once that a name borne alike by the city, the nation, and the ruler, must have been the name of the reigning family. The *Palibothra* then of the Greeks was unquestionably so called from the dynasty of the *Pali-putra*, that is, the *sons* or *tribe* of *Bali*, whose splendour belongs to the heroic age of India. The city *Palibothra* was situated, according to some, at the junction of the Soane and the Ganges, while others remove it to the point where the Cusa joins the latter river a little to the east of Boglipur. It was two miles broad, and extended no less than ten miles along the river, according to Megasthenes. Here the Macedonian enjoyed the best opportunities for studying the country and the people; but, unfortunately, nothing of his has been preserved except his fables, and these are obviously taken from the natives. He repeats the stories of the *Cynocephali* and of *Pygmies*, by which, no doubt, we are to understand the monkeys; for these animals, in some parts of India, frequent the pagodas in great numbers; and being protected from molestation by the superstitious opinions of the natives, they familiarly exhibit all the liveliness and ingenuity of their nature. It is not surprising that Greeks, conversing with Hindoos, should be led into the belief that apes are but an inferior variety of man. The monkey tribe has good reason to complain of being calumniated as well as harshly treated by mankind. Kept in solitary confinement, to which their passionate and social temper is peculiarly ill adapted; pining away with grief and malady, they are accused of being peevish and malevolent, as if the natural disposition of the animal could be developed in so unnatural a situation. In the pagodas of Upper India, however, the monkeys are regarded not merely with indulgence but with respect. Nor is it wonderful that they should be confounded with the human species in a country, the gravest histories of which inform us, that the first great saint converted to Budhism was the king of the monkeys, and that a mimic army, composed of a hundred millions of the same nimble animals, gambolled after the great Ram to the conquest of Ceylon. One fertile source of fable among the Greeks was the liberty they took with foreign words, which they always altered, as the Turks do at present, so as to make them significant in their own language. The significations thus arbitrarily attached to names naturally gave birth to many errors. Thus the *Atshami*, a powerful tribe on the hills near the Ganges, are called by Megasthenes the *Astomi*, or *Mouthless*, and then to explain the subsistence of these monsters he is compelled to add that they are nourished by the smell of fragrant flowers. In like manner the Greeks converted the name of *Cuta Burraca*, a high peak in the Indian Caucasus into *Koite Boreou*, i. e. *the bed of Boreas;* and the mountain of *Devanishi* they supposed to be the birth-place of *Dionusos* the Grecian Bacchus."

Scholars of Alexandria—Eratosthenes.] The foundation of the city of Alexandria, in Egypt, was a great means of enlarging the geographical and hydrographical science of the ancients, both in the direction of the Red sea and India. It has been alleged that the books which had been shut up in the archives of Babylon and Tyre, previous to Alexander's conquests, were by his orders transferred to Alexandria, and that in this way the discoveries of the Phœnician navigators and Chaldean astronomers became known to the Greeks. But we cannot receive this statement with implicit faith, for no hint of the transaction occurs in any accounts we possess of the life and actions of Alexander, and we know that the library of Alexander was founded by Ptolemy Soter many years after Alexander's death. Alexander would, in fact, if there had been any such books in existence, have rather got them all transported to Babylon, which he intended to have made the capital of his dominions, and where alone any works composed in the Phœnician and Chaldean languages could be made use of and appreciated. Besides, there is no proof that such works ever existed. Patrocles, an officer of Seleucus Nicator, visited and described several parts of India and Scythia; and Dicæarchus of Messene, his contemporary, published several treatises on geography, of which three fragments are extant. The first is inscribed a Tour through Greece, being a description of the relative distances and situation of several cities,—an account of the inhabitants, and the intermediate parts of the country. The second contains the same subject in verse, which was designed to impress on the minds of youth, the names of places, being inserted in a geographical map of his own construction. This work was dedicated to Theophrastus, the successor of Aristotle, who corrected and improved the map, and, in his last will, ordered it to be replaced in a portico built for that purpose. The third, a treatise on mountains, was, if we may judge from what of it remains, composed with great judgment, and has been quoted with approbation both by Pliny and Geminus.—The embassy of Megasthenes, already adverted to, and that of Daimachus to the same quarter, at a subsequent period, furnished many valuable accessions to the knowledge of the Greeks respecting the Eastern world; Dalion, Buselis, and Aristocreon, visited Ethiopia, and Simonides resided several years at Merawe, while Aristillus and Timochares introduced the method of determining the places of the stars by their own latitudes and longitudes with respect to the equator. It was at Alexandria that all these materials were arranged and systematized. In this labour Eratosthenes, who flourished under Ptolemy Euergetes, and was keeper of the Alexandrian library, bore a distinguished part. His knowledge of the Nile was as extensive as that of Herodotus, and more accurate; he also collected some information respecting the E. coast of Africa, and mentions India and Thinæ. But his great merit was, that he introduced into geography a uniform system and the art of fixing positions. "He was the first who introduced into a map a regular parallel of latitude. This was a line traced over certain places, whose longest day was observed to be exactly of the same length, and extended from the Straits of Gibraltar, through the Sicilian sea, the southern extremity of the Peloponnesus, the island of Rhodes, the bay of Issus, Cilicia, &c. to the mountains of India. By means of this line he *endeavoured to rectify the errors in the ancient geographical map ascribed to Anaximander*; and on it the longitude of the known world was often attempted to be measured by succeeding geographers. At certain intervals from the first, he traced other parallels upon his map, such as one through Alexandria, another through Syene, and a third through Meroe, and introduced, at right angles to these, a meridian line passing through Rhodes and Alexandria, up to Syene and Meroe. The oriental part of this map was delineated from the surveys of Diognetus and Bæton, and from the materials and authorities furnished by the work of Patrocles; but the whole of it comprehended little more than the states of Greece and the dominions of Alexander's successors; and as Eratosthenes was not acquainted with the western parts of the world, or with the countries bounded by the Northern ocean, he committed several gross errors which have been pointed out by Strabo. But the great work upon which the fame of this geographer chiefly rests, is his attempt to determine the circumference of the earth by the actual measurement of a segment of one of its great circles. Assuming Syene to be directly under the tropic of Cancer, the obliquity of the ecliptic at the summer solstice would be there equal to the height of the pole; but as he found, by means of a gnomon, that Alexandria, which he supposed to be situate under the meridian of Syene, had rather more than 31° of northern latitude, the difference of latitude between those places would therefore be 7° 12′, or 1-50th part of the circumference of a great circle. The arc of the terrestrial meridian intercepted between Syene and Alexandria he found by actual measurement to be 5,000 stadia, which multiplied by 50, gave, as the measure of the earth's circumference, 250,000 stadia, or 694 4-9 stadia to a degree." Pliny has passed a high eulogium upon Eratosthenes; and if we consider the rude and imperfect state of science at that time, and the paucity and inadequacy of the instruments then employed to improve it, we shall not be disposed to question the justice of the panegyric. In his map of the world, as we are told by Strabo, the oriental part of it was delineated from the surveys of Diognetus and Bæton. But the whole of it contained little more than the states of Greece and the dominions of Alexander's successors; for, as Strabo observes, he was not acquainted with the western parts of the world, nor with the regions bounded by the Northern ocean. *Thina* was the eastern extremity of his map, and the *Sacrum Promontorium* the western. His meridian-line extended from the latter line to the former. Thina consequently was placed in the parallel of Rhodes,—a parallel which passes through the empire of China within the Great Wall. Strabo informs us, that Eratosthenes asserted that Thina had been, previously to the construction of his map, incorrectly placed in the more ancient maps. Now Thina is also the most eastern position in Ptolemy's geography. But for Strabo, we should not have known that the ancients were acquainted with Thinæ or Thina, and that it had a place in their maps before the time of Eratosthenes, and that from their time to that of Ptolemy, even down to the time of the Arabians, Thina was the most eastern point of the world known to the ancients. His position of Meroe, in respect of latitude, is not far from the truth, and was probably derived from Simonides, who lived five years there. From the Promontorium Sacrum, to the mouth of the Ganges, Eratosthenes reckoned 70,000 stadia, which at 700 to a degree, amount to 6,000 geographical miles. Now the direct distance between these points is 4,970 geographical miles, or 1,030 less than the calculation of Eratosthenes. But the lines of distance across the continent of Asia were given by the ancients in road measure, and not in direct distance, as Rennel has proved by an induction of examples. If 1-7th, therefore, be added for inflections, or 710 geographical miles, then 5,680 will be assumed for the road distance, so that the difference between the calculations of Eratosthenes will be only 320 geographical miles, which is not great on so long a line. His estimate of 3,000 stadia for the isthmus of Asia Minor between Issus and Amisus, if meant for direct distance across, is the justest that the ancients have left us. Taking these at 700 to the degree, the intermediate space is 257 geographical miles, or 300 English miles, being only 20 English miles within the truth. By another statement, 3,700 stadia are given by Eratosthenes, between Issus and Amisus, which is possibly intended for road distance, and if so, very little exceeds the truth, if 1-7th be allowed for inflexion, the intervening space being very mountainous. It is nearer the truth than the map of D'Anville. Between Gades and Issus, he made the distance

28,843 stadia, or 2,472 geographical miles, or 2,850 English miles, or 520 English more than the truth, or 9¼ degrees of longitude more than the real distance in the parallel of 36° N. lat. It must be remarked that the distance is only computed, and that not in a direct line, but along the coasts. The longitude of the Mediterranean was not taken from a series of celestial observations made at the pillars of Hercules and Issus, but from the computed sailing distance chiefly along the coasts, from the one point to the other, or in other words, the relative longitudes of the two points were inferred from the computed distance, and not the real distance from the true ascertained longitudes; the computed distance was assumed as the real distance, and thus the longitudes were fixed. The same remark is applicable to the computed distance between the Sacrum Promontorium and Canopus at the mouth of the Nile, estimated by Eratosthenes at 24,500 stadia, or 2,100 geographical miles, which is 100 geographical miles, or only 1-20th part more than the real distance. Erroneous as these estimates of Eratosthenes were, they were nothing compared to those of Ptolemy at a much later period. However, several gross errors were committed by Eratosthenes in other longitudes, along the coasts of the Mediterranean, as in those of Carthage and Dyrrachium, making the former to be 15,000 stadia west of Alexandria, instead of 9,000 the real distance, and the latter 900 stadia from Thermæ, (Salonica) on the Egean sea, instead of 2,000 the true distance. His latitudes in some points were, notwithstanding, tolerably accurate, as those of the pillars of Hercules, Rhodes, Issus, the Caspian Gates, which are really near the truth, and even the northernmost point of Scotland is fixed by him at 61° N. lat., or 2° 23′ more than its ascertained latitude, which, considering the very slender knowledge which at that early period must have been possessed of Britain by the Greeks, is nearer the truth than might have been expected. We are informed by Marcian of Heraclea, that the whole of the geographical knowledge of Eratosthenes was derived from the work of Timosthenes, which, preface and all, was used by him in the construction of his map. But this has nothing to do with his astronomical labours in determining the figure and circumference of the earth. Eratosthenes died in the year 194 B.C.—Agatharchides, who was about 20 years younger than Eratosthenes, cultivated the descriptive department of geographical science. It is from him we have the first authentic account of the countries to the S. of Egypt. He also was a president of the Alexandrian library, and wrote a work on the navigation and commerce of the Red Sea. He mentions the gold mines wrought by the Ptolemies on the coasts of that sea, and depicts the sufferings of the miners in strong language. He gives an elaborate account of the wealth and commerce of the Sabæans and Gerrhæans; and describes the Abyssinian custom of ham-stringing wild elephants, and eating the raw flesh cut from them while alive.

Hipparchus—Artemidarus.] Hipparchus—whose epoch is not exactly ascertained, but must be fixed somewhere betwixt 159 and 129 B.C.—made considerable improvements, particularly in the astronomical part of the science. He applied the method of Aristillus for determining the places of the stars, to ascertain the relative position of the different parts of the earth's surface, and fixed on the Fortunate islands as his first meridian. His catalogue of the fixed stars is preserved in the Almagest of Ptolemy, and his commentary on the phenomena of Aratus and the astronomy of Eudoxus is still extant, and was published with a Latin version by Petavius in 1630. He composed a work in several books to correct the errors of Eratosthenes, charged him with many blunders, and absurdly preferred the map of Anaximander to that which he had constructed; reckoning his computation of the earth's circumference to be deficient, he added 25,000 stadia, making 1 degree nearly 764 stadia, or more than 75 geographical miles, which, instead of correcting, increased the error of Eratosthenes.—He was followed by Artemidorus, who lived about a century before the Christian era, and who composed a copious periplus of the Mediterranean. He calculated the distance from Cadiz, to the mouth of the Ganges, at 68,624 stades, or 8,578 Roman miles, on the parallel described by Eratosthenes, or 5,882 geographical miles. Now, the direct distance is 4,845 geographical miles, or 1,037 such miles less than his estimate. But as road distance between these supposed parallels is evidently intended, if 1-7th be allowed for inflexion on this long line of distance, the error will be reduced to 344 geographical miles. On a second line given by Artemidorus, through Cappadocia, Ephesus, Rome, and Spain, the distance between these two points is made 8,685 Roman miles, or 107 Roman miles more. This clearly shows that the distances across Asia were given by the ancients in road-measure, and not in direct measure; and hence the source of these enormous longitudes given by the ancient geographers.

Eudoxus.] Eudoxus of Cyzicus, a man enthusiastically devoted to geographical researches, visited Egypt in the reign of Euergetes II. (146-117 B.C.) and was sent by that monarch on an exploratory expedition to India, under the pilotage of an Indian who had been found expiring with hunger in a boat on the shores of the Red sea. After having made two expeditions to India, he conceived the idea of arriving at the East by the circumnavigation of Africa, but appears to have perished in the attempt.

Survey of the Roman Empire.] The rising greatness of the Roman power contributed much to the extension of geographical knowledge. The Greeks had little or rather no knowledge of those regions of Europe which lay at a distance from the Mediterranean or Euxine seas. They had neither traversed Spain, nor visited Gaul, nor penetrated into Great Britain. Germany was nearly inaccessible, and thinly inhabited by fierce and warlike tribes. But the successive conquests of these countries by the Romans, and especially by Julius Cæsar, developed their boundaries, extent, and interior geography. Among the Greeks, Eratosthenes was the first who gave a rude sketch of Britain, but he was ignorant of the existence of Ireland; and no notice of Ireland appears in Polybius, a later writer than Eratosthenes. But the greatest part of the civilized world being reduced to the Roman yoke, a survey of the whole Roman empire was decreed by the senate under the consulate of Julius Cæsar and Mark Antony, 44 B.C. The care of this survey was entrusted to three Greeks, Zenodoxus, Theodorus, and Polycletus. To each of these a different division of the empire was assigned. Zenodoxus finished his survey of the eastern part in 14 years, 5 months, and 9 days. The northern part was completely surveyed by Theodorus in 20 years, 8 months, and 10 days. Polycletus returned from the south in 25 years, 1 month, and 10 days. This survey is ascribed by Pliny to Agrippa, son-in-law and prime minister to Augustus Cæsar, because it was completed when that minister was in the plenitude of his power. To this survey were added supplementary surveys of the new provinces as they were successively conquered and added to the empire, and these formed the basis of the geography of Ptolemy. From them a plan of the empire was formed, containing the distances of places, with descriptions of the sea-coasts and interior parts of the countries, which was placed under a grand portico in the middle of the city for public inspection. Every governor of a province was furnished with a map and written description of it, in which were both given and engraved, the distances of places,—the nature and direction of the roads,—the courses of the rivers,—and the chains of hills and mountains. All the cities of the Roman empire were connected with each other, and with the capital by public roads, which, issuing from the Roman Forum, traversed Italy, pervaded the provinces, and were terminated only by the boundaries of the empire. These roads were carefully marked at every 1,000 paces, or 4,840 English feet, by milestones, and ran in a direct line from one city to another, in defiance of the obstacles of nature, or the rights of private property. Mountains were perforated, and bold arches thrown over the broadest and most rapid streams. The middle part of the road was raised into a sort of terrace, which commanded a view of the adjacent country. They consisted of several strata of sand, gravel, and cement, and were paved with large stones, and in some places near the capital, with granite; and such was the strength and durability of these roads, that they have not yet entirely yielded to the combined effort of sixteen centuries. No country was considered as completely conquered till it had been rendered pervious in every direction to the arms and authority of the victor. Posts were regularly established in all parts of the empire, houses were everywhere erected at distances of five or six miles, each of which was constantly provided with 40 horses, and by the help of these relays, it was easy to travel 100 miles a-day along the Roman roads. A magistrate of high rank once posted, in the 5th century, from Antioch to Constantinople, a distance of 725 Roman, or 665 English miles, in 5½ days. If a line be drawn from the wall of Antonine, the N.W. extremity of the Roman empire, to Rome, and thence to Jerusalem at the S.E. point, it will be found that the great chain of communication between these opposite points amounted to 4,080 Roman, or 3,740 English miles. This vast space, surveyed and delineated with an accuracy previously unknown, extended from the Atlantic to the vicinity of the Tigris, and from the wall of Antonine, and the frontiers of Poland, to Mount Atlas, and the tropic of Cancer, comprehending an area of 1,600,000 geographical square miles. It was from this plan, projected by Julius Cæsar, and completed by Augustus, that the succeeding geographers of ancient days drew the best and fullest information.[5]

Strabo.] The celebrated Strabo flourished under the reign of Augustus, and to him we are indebted for a work which enables us to appreciate the geography of his age. By reading and travelling, he made himself master of all the geographical knowledge of his times, which he digested into a system of geography in 17 books, of which the latter part of the 7th book only is lost. The following accurate and perspicuous digest of Strabo's system is given by the editor of the 'Edinburgh Geographical and Historical Atlas:'—"Having devoted the introductory portion of his work to a critical history of the science from the time of Homer downwards to the period when he wrote, and to an exposition of his own peculiar notions in regard to the form and dimensions of the earth, Strabo commences the geographical description, or chorography, of the world known to the ancients, with an account of Iberia or Spain. He first describes Bætica, next Lusitania and the northern coast as far as the Pyrenees, then the southern coast from the straits to the Pyrenees, and, lastly, the islands belonging to Spain, viz. the Balcares (*Majorca* and *Minorca*), the Pityusæ (*Ivica* and *Formentera*), and the Cassiterides (*Scilly islands*): these last, he says, are situate in the high sea to the N. of the harbour of the Artabri, or Corunna, and near the western extremity of Britain; whence it follows, that he considered the west of Britain as at no great distance from the northern extremity of Spain. The manners of the different Iberian tribes, and the physical state of the country, are described with tolerable accuracy; but, from ignorance of the true bearings, in other words, want of skill in orienting, its form and relative position are grievously distorted. This arises from the fundamental error of giving to the Pyrenees a direction due north and south; while the Peninsula itself was conceived to be nearly in the form of a square, or, to use the unscientific expression of Strabo, 'a hide spread out.' According to this arrangement, the Pyrenees constituted the eastern, and the line of coast extending from the northern extremity of that range to Sagres or Cape St Vincent, the northern side or boundary of the figure. This error, however, serves to account for the singular statement, that the Cassiterides, or Scilly islands, on the south-western extremity of Britain, were islands belonging to Spain, and situate at a short distance from the modern Cape Ortegal. For if it be laid down that the Pyrenees run due north and south, and if the figure of Spain be conceived to be that of a square; then Cape Ortegal, or at least Cape Finisterre, would be projected forward from its true place to somewhere near the actual position of Ouessant or Brest; the north-western extremity of Spain would occupy the place of the peninsula of Bretagne; and the proximity of Britain would follow as a matter of course.

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[5] "The Roman Itineraries that are still extant, show to what extent surveys were made in every province; and Pliny has filled the third, fourth, and fifth books of his Natural History with the geographical distances that were thus measured. An ancient chart, (Charta Provincialis, Itineraria, et Militaris,) discovered by Conrad Celtes in a library at Spires, and now known by the name of Peutinger's Tables, may serve as a sufficient specimen of what Vegetius calls the Itinera Picta. The original is supposed to have been constructed in the reign of Theodosius the Great, and has perished; the copy is delineated on parchment of a foot in breadth, and about 22 feet in length, comprehending an extent of 74° of longitude, and from 8° to 22° of latitude; but, from its length so far exceeding its breadth, it represents the countries delineated in no just or natural proportions. The names of mountains, rivers, and seas, occur in it; but no regard is paid to their position, form, and dimensions; and it was probably, therefore, intended for a representation of the distances of places on the great roads of the Roman empire. Of the Itinerara Adnotata, which Vegetius contrasts with the Itinera Picta, the Itinerary of Antoninus may serve as an example. Like our common road-books, it contains the names of different places, with their respective distances; but it is not accompanied with any delineation."—*Edinburgh G. and H. Atlas.*

"Separated from Spain by the conterminous boundary of the Pyrenees, Gaul was likewise described as a square, having for its eastern side the river Rhine, which was therefore supposed to run parallel to the Pyrenees. By suppressing or greatly reducing the peninsula of the *Osismii* (Bretagne), indicated by Pytheas, Strabo gives a most erroneous idea of its western coast, which, together with the northern, he has oriented from east to west, and made everywhere opposite to, and at a small distance from Britain. This was a necessary consequence of the original error in regard to the direction of the Pyrenees. In following the division of Gaul given by Cæsar, he has avoided the error of Diodorus Siculus, who, misled by the Latin names, supposed the Gauls and the Celts to be two distinct races.

"To Britain Strabo assigns a triangular form: one of its sides, says he, runs parallel to the coast of Gaul; another follows the direction of the northern coast of Spain; the third is little known. From this statement we may infer, not merely the extent of Strabo's information, but likewise the source whence it was derived. Navigators having doubled the points of the Land's End and the North Foreland, and observed that, at the former headland, the west coast trends to the north-east, while at the latter the east coast trends rapidly to the north-west, they appear, according to the system then prevalent, to have arbitrarily extended the lines thus indicated, till, meeting somewhere near the centre of England, they formed a triangle, of which the southern coast may be considered as the base. According to this hypothetical formation, the longest side of the triangle would be opposite to Gaul, as Strabo has asserted. Ireland is placed at no great distance from Britain, but farther to the north. It is described as a large and sterile island, peopled by a race of savages, strangers to every kind of civilization. It is also the most northerly land which Strabo admits into his system. 'The ships that trade from the ports of Gaul,' says he, 'never venture beyond Ireland; as all places in a higher latitude are rendered inaccessible by eternal frost.' An imaginary line, therefore, drawn from the mouths of the *Albis*, or Elbe, the limits of his continental geography on the west, but in a lower latitude than Ireland, to the sources of the Borysthenes (*Dnieper*), and Tanais (*Don*), on the east, which were considered in nearly the same latitude, would terminate the Europe of Strabo to the north; and, taking his measures to the letter, this line would correspond nearly to the 55th parallel of north latitude upon modern maps."

"Taking leave of the British islands, the extremity of the world in his system, he proceeds to describe the Alps, and the countries embosomed in that chain of mountains. He then passes to Italy and its islands, the description of which occupies two books, but presents nothing remarkable, except a grave discussion whether the figure of Italy be that of a square or a triangle, and the erroneous direction given to the peninsula, which is made to run nearly east and west. A single book serves for the description of the north of Europe, from the Rhine to the Tanais. Disbelieving the information of Pytheas, he attempts no account of the countries situate beyond the Elbe, the western limit of Europe in his system, and enumerates, with little order or precision, the nations living within that boundary. He seems to have been aware that an immense plain intervened between Dacia and the Caspian; but he passes in disdainful silence the accurate notions of Herodotus respecting the country and people of Scythia, and of course repeats errors which ought to have been long exploded. The remainder of the book is occupied with an account of Illyricum, Thrace, Macedonia, and Epirus. The description of Greece is very full and interesting, though upon the whole, less clear and precise than that of Pausanias. We may just observe here, that the measures of Eratosthenes give to the peninsula of Greece an extent from west to east double of the truth, and that neither Polybius, nor Strabo who follows him, has been able to rectify a little this error, except by disfiguring the peninsula of Italy, and continuing to place the Bosphorus due north of the Hellespont; whereas the line upon which both these straits are situate, runs in a direction nearly due east and west.

"According to all the ancient authorities, Asia was traversed longitudinally by the chain of Taurus, which, commencing on the coast of Caria nearly opposite Rhodes, and running across the whole of that continent, terminated at Thinæ, the most easterly point known, and probably at no great distance from where Little Bukharia borders on the great Mongolian desert. With reference to this chain, therefore, Asia was divided into two grand compartments; all the countries situated to the north of it being denominated Asia within, and those to the south, Asia without Taurus. Asia within Taurus, or Northern Asia, was again subdivided into four principal parts or countries. The *first* was bounded on the west by the Tanais, the Palus Mæotis, as far as the Bosphorus, and the Euxine sea as far as Colchis; on the north, by the Northern ocean, and the part of that ocean which, according to Strabo, extended to the embouchure of the Caspian, one of its gulfs; on the east, by the Caspian to the separation of Albania and Armenia, at the point where the Cyrus and the Araxes unite; and on the south, by the isthmus which separates the Euxine from the Caspian, following the direction of a line drawn from Colchis to the embouchure of the Kur or Cyrus. The *second* comprehended the countries situate to the east of the Caspian, as far as those parts of Scythia which border on the Indus and the Eastern ocean. In the *third* were included the countries situate upon the plateau formed by different branches of the chain of Taurus to the south of the Caucasus, viz. Media, Armenia, and Cappadocia, as far as the Halys. The *fourth* comprised Asia Minor from the Halys, with the islands belonging to it.

"In his description of Asia without Taurus, or Southern Asia, Strabo commences with India. All that he says of that country, however, is full of obscurity and contradiction. He seems to have closely followed Eratosthenes, in whose map the Indus was oriented in such a manner, that the western became the southern bank, while the peninsula of India vanished, and Cape Comorin appeared under the same latitude as Meroe. Proceeding upon this most erroneous idea, he represented India as a rhomboid whose northern and southern sides exceeded its eastern and western by 3,000 stadia. He was better informed in regard to the countries to the west of the Hyphasis and Indus, which had been described by Onesicritus and Aristobulus, two of the companions of Alexander. Under the name of Ariana he comprehends the provinces situated between the Indus and a line drawn from the Caspian Gates to the embouchure of the Persian gulf. Ariana, probably the *Iran* of the oriental historians, is therefore the eastern Persia of our maps. Pliny, and even Strabo, sometimes confound it with Aria, which is only the most fertile part, and in which were the city of Aria, now Herat, and the Palus Aria, the modern lake Durrah. Advancing still to the westward, Strabo describes Assyria, or Aturia, which, besides Adiabene, comprehends Babylonia and Mesopotamia, the *Aram-Naharaim* of the Hebrews; next Syria, Phœnicia, and Palestine; and finally Arabia, which completes the delineation of Asia without Taurus.

"From this rapid sketch, it appears that Strabo was wholly unacquainted with the vast regions of Northern Asia; that Middle Asia, inhabited by the Tartar and Mongul races, was equally unknown to him; and that, in point of fact, his knowledge was confined to a part only of Southern Asia. An ocean, according to him, extended along the whole northern coast of Enrope and Asia; but, though the general idea is sound, this notion seems to have been derived, not from actual information, but from the ancient fancy of a circumambient ocean. This opinion is confirmed by the circumstance, that the supposed ocean is brought much too near the centre of Asia, and the Caspian made one of its gulfs; while, from the southern shore of that sea to its junction with the Northern ocean, Strabo makes the distance only a fifth part of the breadth of the continent, thereby cutting off upwards of 1,500 miles of its extent from north to south. If the ancients had really possessed itineraries from the centre of Asia to the Northern ocean, they would, as usual, have rather amplified the distance than diminished it in such an enormous proportion. The eastern coast of Asia was also supposed to be washed by an ocean, called the Eastern, and sometimes the Atlantic ocean, from an impression that it filled all the intermediate space between Asia and the western coasts of Europe and Africa. India was considered the most easterly country of Asia; and the continent being bounded by a line drawn along the frontier of India, Thibet, Independent Tartary, and immediately north of the Caspian, was thus reduced to about one-third of its real dimensions. The immense regions of Siberia, Chinese Tartary, China, and India beyond the Ganges, were all excluded, because utterly unknown to the ancients.

"Africa was that quarter of the world where the ancients had made the fewest discoveries since the age of Herodotus. At Memphis and Cyrene the father of history had collected all the information possessed by the Egyptian priests and Greeks resident in Africa; some fragments respecting the discoveries of the Carthaginians appear also to have reached him; and by attentively considering and comparing all that he had learned, he was enabled to indicate obscurely the sources of the Nile, the Niger, and the situation of Mount Atlas; beyond these limits, he wisely suspended all judgment. Eratosthenes afterwards collected at Alexandria very accurate information in regard to the course of the Nile in Nubia; he distinguished more clearly than Herodotus had done, the true Nile coming from the west, or Bahr-el-Abiad, the Astapus (Abawi) or Nile of Abyssinia, and the Astaboras or Tacazze; and it is undoubtedly from him that Strabo derived the particulars he gives of the lake *Pseboa*, or Dembea, in Abyssinia. But Eratosthenes was clearly ignorant of the sources of the great Nile, because the Egyptians had never penetrated beyond the limits of Abyssinia. The expedition of Ptolemy Evergetes, supposing it to have actually occurred, appears to have been confined to the space comprised between the Arabian gulf and the false Nile of Abyssinia, or the Astapus of the ancients, which was included in the world known to Herodotus and Eratosthenes. The Carthaginians probably maintained some intercourse with the nations or tribes on the Niger; but when this enterprising and enlightened people fell under the sword of the oppressors of the world, their discoveries vanished with their independence, or were regarded as impudent fabrications. Thus, in Strabo's time, the interior of Africa was almost entirely unknown. Egypt and the coast of the Mediterranean were the only parts frequented by the Greeks, who, from this confined intercourse, and some absurd notions about the 'limit of the habitable world,' were led to ascribe to it a figure as different from the real one, as it is possible to conceive. Some believed it to resemble a trapezium; the greater number, including Strabo, assumed that the coast from the straits to Pelusium might be considered as the base of a right-angled triangle, of which the Nile extending from the ocean into Ethiopia formed the perpendicular side, while an imaginary line connecting the termination of the Nile and the straits constituted the hypotenuse. The vertex of this triangle was conceived to extend beyond the 'limit of the habitable earth,' and was consequently regarded as inaccessible. From this formation it follows that

Strabo had no knowledge of the coast beyond the straits, or of the discoveries of the Carthaginians? It does not appear that he had read the Periplus of Hanno, of which we have already given some account, or he could hardly have failed to allude to that memorable voyage. With regard to the east coast, he cites a Periplus of Artemidorus, who appears to have sailed from the straits of *Diræ*, or Babelmandel, to a point near Bandellans, south of Cape Guardafui, where a desert coast for a long period arrested the progress of the Greek navigators of Egypt. In conformity with these ideas, and the usual mode of orienting, the western coast of Africa was supposed to trend to the east, and the eastern to the west, at the distance of 8,800 stadia, or 12° 30′ from the equator; while the southern coast, which, according to the opinion both of Strabo and Eratosthenes, did not quite reach to the equator, was supposed to be washed by the Indian and Atlantic oceans, which there united. This hypothesis, which abridged Africa of half its length, and made it smaller than Europe, was generally adopted by the school of Alexandria; nor did the contrary opinion of Hipparchus, that eastern Africa was united to India, attract any regard, till it had been adopted by Marinus of Tyre and Ptolemy; but notwithstanding their authority, the hypothesis just mentioned maintained its footing in the west of Europe, where it latterly contributed to the discovery of a passage to India by doubling the southern extremity of Africa."[6]

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[6] "It is remarkable," says a writer in the Quarterly Review, "that during a space of near 500 years, from the time of Herodotus to that of Strabo, so little should have been added to the science of geography. The conquests of the Romans westward did certainly bring them acquainted with parts of Europe hitherto little known; but in the east, neither the Macedonian nor the Roman expeditions seem to have brought much to light that was before unknown of the state of Asia; while in Africa, as major Rennel justly observes, geography lost ground. In the course of this period indeed, many writers on the subject appeared; but whatever were their merits, (and the merits even of the most eminent among them, Eratosthenes, seem to be not highly rated by Strabo,) it is certain that they are all lost. We may collect indeed from a curious circumstance little known or regarded, that no complete or systematic work on geography at that time existed: for it appears from two or three of Cicero's letters to Atticus, that he once entertained thoughts of writing a treatise himself on the subject. He was deterred however, he says, whenever he considered it, by the magnitude of the undertaking, and by perceiving how severely even Eratosthenes had been censured by the writers who succeeded him. In fact, he was probably restrained by a consciousness of his own incompetency in point of science, of which he makes a pretty broad confession to his friend: and whoever values the reputation of Cicero, cannot regret that it was never risked on a system of geography to be *got up*, as he himself hints that it was intended to be, during a short summer tour among his country houses in Italy.

"It is not however merely to the respective character of the two individuals that we must attribute the inferiority of the geography of Herodotus, in all essential requisites, to that of Strabo. Much undoubtedly is owing to the manners and complexion of the times in which they respectively lived. The former came to the task with few materials supplied to his hands. Every thing was to be collected by his own industry, without the aid of previous history, without political documents, or political authority. The taste moreover and habits of the people for whom he wrote, which must ever have a powerful influence over the composition of any writer, demanded other qualities than rigid authenticity and a judicious selection of facts. It should be remembered that he was hardly yet emerged from the *story-telling* age; the pleasure of wondering had not yet been superseded by the pleasure of knowing; and the nine deities who give name to his books might be allowed to impart some share of their privilege of fiction, wherever sober truth was insufficient to complete or adorn his narrative.

"Before the age of Augustus, however, an entire revolution had been effected in the intellectual habits and literary pursuits of men. The world was become in a manner, what it now is, a reading world. Books of every kind were to be had in every place. Accordingly, it became the chief business of writers who projected any extensive work to examine and compare what was already written, to weigh probabilities, to adjust and reconcile apparent differences, and to decide between contending authorities, as well as to collect and methodise a multitude of independent facts, and to mould them into one regular and consistent form.

Britain visited by Cæsar and others.] When Julius Cæsar first visited Britain, he found the maritime provinces possessed by a people whom he supposed to be Belgians, and knew to be of German descent by their large limbs, florid complexions, and keen grey eyes. The inhabitants of the S.W. angle of the island, the Silures, having dark complexions and coloured hair, he supposed to be a colony direct from Spain. Under the emperor Claudius this island was first effectually brought under Roman dominion; and 30 years later we find Pliny acquainted with the Ebrides or western isles of Scotland. At length Agricola extended the Roman conquests to the Grampian hills; and by his fleet ascertained that Britain is an island: "he discovered also and subjected," says Tacitus, "the Orcades, a cluster of islands not known before, and saw Thule, hitherto concealed by snow and winter." The same historian describes Britain as having Germany on the E. Gaul on the S., and Spain on the W., and places Ireland mid-way between Spain and Britain.

"It was not without a just sense of the magnitude and difficulty of his undertaking that Strabo engaged in this task, as is sufficiently proved by his own elaborate introduction. How many years were employed upon it, is not certain; but we are sure, from the incidental mention made in different passages of historical events widely distant from each other, that it occupied a considerable portion of his life; during the greatest part of which period he was engaged in a personal inspection of many provinces of the Roman empire, travelling often as the friend and companion of persons high in authority.

"It is impossible indeed to read any of his larger descriptions without feeling the advantage possessed by an eye-witness over a mere compiler. The strong and expressive outlines which he draws, conveys a lively idea not merely of the figure and dimensions, but of the surface and general character of extensive districts. These outlines are carefully filled up by a methodical and often minute survey of the whole region; marking distinctly its coast, its towns, rivers, and mountains; the produce of the soil, the condition and manners of the inhabitants, their origin, language, and traffic: and in the more civilized parts of the world, in the states of Greece especially, we meet with continual information respecting persons and events, the memory of which is sacred to every one at all conversant with the writers of that extraordinary people.

"But it is not merely from the number and authenticity of the facts which it communicates that this work derives its value. Every page bears evidence of a philosophical and reflecting mind—a mind disciplined by science, and accustomed to trace the causes and connexion of things as well in the province of physical phenomena, as in the more intricate and varying system of human affairs. In this respect Strabo bears a strong resemblance to Polybius. But with the fondness of that historian for reflection and his steady love of truth, he has not copied the formality of his digressions which so often interrupt the flow of the history, and which would be yet more unsuited to a geographical work. The reasonings and reflections of Strabo are just those which would naturally be excited in a mind previously well informed, by the scenes over which he was travelling; but they never tempt him to lose sight of his main purpose, the collection and arrangement of facts. There is a gravity, a plainness, a sobriety, and good sense in all his remarks which constantly remind us that they are subordinate and incidental, suggested immediately by the occasion; and they are delivered with a tincture of literature, such as a well-educated man cannot fail of imparting to any subject.

"On these accounts he would be entitled to the perusal of every scholar, even if the geographical information were less abundant and authentic than it really is. But the miserably corrupt state of the text seems to have discouraged translators as well as readers. Certain it is that translations of Strabo into the modern languages are fewer in number, and of a more recent date, than those of any ancient author, whose information has been so often appealed to as authoritative and curious. The Italian version by Buonacciuoli was indeed published in 1562; but that in German by Pentzel did not appear till 1775, and was not then completed; and a single book, that which relates to Spain, was translated from the Latin into Spanish, so late as 1787, by Don Juan Lopez, geographer to his most sacred majesty, &c &c. The French translation also promised by Brequigny in his edition of the three first books of Strabo, published in 1763, appears to have been in part, at least, executed, since it is once mentioned in a note by the present translators, but whether it was ever entirely executed does not appear. The present version was undertaken by the order of Buonaparte, when first consul of the French Republic. To Messieurs De la Porte, Du Theil, and Coray, were assigned the translation, with the critical and historical notes; and to M. Gosselin the formation of the maps, and the geographical illustrations."

Pomponius Mela.] In 50 A. D. Pomponius Mela, a native of Spain, published a geography in three books. In the first and second books he fixes the boundaries of Europe, Asia, and Africa, and after enumerating the most considerable nations by which they are inhabited, treats of the countries along the Mediterranean, beginning with Mauritania. In the third book he takes a cursory view of the countries bordering on the Exterior sea (Atlantic), beginning with Spain,—proceeding northward to the extremities of Scythia,—returning thence along the coasts of Asia and of Africa,—and terminating his survey at the pillars of Hercules. His account of the provinces adjacent to the Mediterranean is concise and accurate; but his review of the northern parts of Europe, and of the most distant parts of Asia, is defective and fabulous. He abounds in marvellous stories. Among others, of Indian ants larger than mastiffs, which guard the gold like the Gryphins of Herodotus. This story he borrowed from that historian, but he improved it, for Herodotus said that these ants were of the size of foxes, but Mela has made them as large as the largest sized dog. He repeats the fable of the Phœnix, which Herodotus and others had mentioned before him; and also the absurd story of hairy women called Gorgons, from those Greek authors who had misrepresented or misconceived the account of Hanno. He represents several African tribes as incapable of speech, conversing merely by signs,—others as having no tongues,—and others as being destitute of lips, having only a small aperture below the nostrils by which they can drink by means of a straw passed through. He supposes a communication between the Caspian sea and Northern ocean, apparently mistaking the mouth of the Volga for that strait. He divides that sea into three large bays,—the Hyrcanian on the south,—the Scythian on the left,—and the Caspian on the right.[7] At the same period with Mela, Isidore of Charax composed a geographical itinerary, a fragment of which, relating to the distances of the most remarkable places within the limits of the Parthian empire, only remains.

Pliny.] Geography was much indebted to the industry of the indefatigable Caius Secundus Plinius, who, in his Natural History, has collected the principal facts in the science known in his time. After examining the accounts of Polybius, Artemidorus, and Agrippa, he assigns the following comparative magnitude to Europe, Asia, and Africa. To the first, one-third, to the second, one-fourth, and to Africa, one-fifth of the globe. With few exceptions, his geographical knowledge of the east and of the north—those parts of the world with which the ancients were least acquainted—is very inaccurate. He identifies the Indus with the river Ghiznee, and supposes the Ganges to be the N.E. limit of Asia; he also makes the breadth of Asia Minor to be only 200 Roman, or 180 English miles, thus narrowing the peninsula more than one-half. His geography of the North is the most full and curious of all antiquity. He gives the circumference of the Euxine shore, from Byzantium to Trapezus, and round the head of that sea to the Bosphorus, and thence along the northern or European side to Byzantium again, in Roman miles, the number of which he states at 3,203. He also gives a magnificent account of the Danube, which, in agreement with Tacitus, he deduces from the Mons Abnoba, (the Schwarzevald, or Black Forest,) and conducts into the Euxine by six vast mouths, so large, that the sea is said to be vanquished for 40 miles, the water being fresh all that distance from the shore. From the boundary of Lycia, round about to the Thracian Bosphorus, he says that 282 nations inhabited the coast and interior. He estimates the number of tribes and tetrarchies in Galatia at 195. The coast of the Baltic seems to have been partly known to him, and he particularly mentions an island called Baltea, where amber was found. He supposes the Baltic itself to be connected with the Caspian sea and Indian ocean. He is the first author who mentions Scandinavia, which he represents as an island, the extent of which was not then known, but probably he meant the peninsula of Schonen in Sweden. Denmark may probably be recognized in the Dunina of Pliny, and Norway in Noligen. The whole of his information respecting the north of Germany seems to be drawn from the expeditions of Varus, Drusus, and Germanicus, to the Visurgis and Albis (Weser and Elbe), He knew more of the situation of Ireland than Strabo, for he places it at no greater distance than 30 M. P. from the Silures (South Wales), or 24 geo. miles, which, considering circumstances, is a near approximation to truth. In lib. iv. c. 16, he allows 50 M. P., or 40 G. M., between Boulogne and the nearest opposite coast, which space he should have known better. He allows from Agrippa an extent of 600 M. P. to Ireland, by 300 M. P. of breadth, and 800 for the length of Britain, by the same breadth. Both of these dimensions are over-rated, particularly those of Ireland, whose *length* hardly exceeds the given *breadth*. It must be observed, that by Britain, Pliny means England only. He has given a very interesting, though concise description of the Alps and Apennines. "The very unsatisfactory account which Pliny, on the authority of king Juba, gives of the courses of the Nile and Niger, makes us regret"—observes the author of 'Maritime and Inland Discovery'—"that we do not possess the original volume of that learned Mauritanian, or rather those valuable documents from which he professed to derive his information, the Carthaginian annals. But the errors of the Roman author are not without instruction: for when Pliny informs us that the lake *Nilis*, abounding in crocodiles like the *Nile*, is situated not far from the Western ocean; that the river flowing from it towards the east sinks into the desert, and runs for many days' journey under ground: that after emerging, and hiding itself a second time in a subterranean course, it rises at length from the source called Nigris, and dividing Africa from Ethiopia, takes the name of Astapus, one of the chief branches of the Nile: when he makes this ill-arranged statement, it is easy to perceive that the relations of the Carthaginians, who probably maintained some correspondence with the nations inhabiting the country of the Niger, were perverted by those who had no such authentic sources of information. The rivers of the interior were known to Pliny from the Carthaginian writers; but the violent hypotheses which connected them with the Nile were evidently the fruits of a later age, when theoretical speculations predominated, and direct intercourse with the interior was at an end. It is obviously an error, therefore, to suppose with many writers, that the Roman armies penetrated to the Niger, or that they ever advanced so far southwards as the sources of the Astapus, or Nile of Abyssinia, which Pliny, by a singular mistake, connects with the rivers of western Africa.

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[7] An edition of Pomponius Mela, with copious notes replete with learning and scurrility, was published by Isaac Vossius, and another by James Gronovius, who animadverts with critical severity on the emendations and notes of Vossius.

"It was not till a comparatively late period that the Roman geographers obtained any certain knowledge of islands in the Atlantic. Sertorius, while an exile in Spain, received an account of two islands to the west of Libya, of great fertility, and formed by nature to be the refuge of the unfortunate. In the distressful situation of his affairs such a belief was easily entertained. About twenty years later, Statius Sebosis collected at Gades all the information he could obtain respecting those western isles. King Juba also made inquiries respecting them, and learned the names of six. It is at first sight difficult to reconcile the accounts of the Roman and the Mauritanian with one another, or with that of Ptolemy; but there is still such a trace of agreement between them in their mode of arranging the islands, as leads to a complete explanation of all difficulties. The concurrence of their statements may be seen in the following table, in which the names of the islands are arranged in the order observed by the respective authors:—

SEBOSIS.	JUBA.	PTOLEMY.	MODERN NAME.
		Aprositos	Allegranza
Junonia	Junonia parva	Junonia	Clara
Plutalia	Ombrias	Pluitalia	Lancerote
— —	Junonia	——	Lobo
Capraria	Capraria	Casperia	Forteventura

"Beyond the *Fortunate Isles*," says Pliny, "there are others;" and of these he mentions two, *Nivaria* and *Canaria*, Teneriffe and Canary, which had been previously named by Juba, and were doubtless the *Convallis* and *Planaria* of Sebosis.

"Thus it appears that the Hesperides, or Fortunate isles, of the ancient geographers, were the most easterly of the group now called the Canaries. They are ranged in a line running parallel to the coast of Africa, and are situate about half way between the continent and the great islands, Canary and Teneriffe, which, although named, were probably never visited by the ancients."

Pliny's account of the Royal road, from the banks of the Indus to Palibothra, is an interesting contribution to the ancient geography of India. According to Dionysius Periegetes, it was called also the Nyssæan road, because it led from Palibothra, to the famous city of Nyssa. It had been traced out with particular care; and at the end of every Indian itinerary measure, there was a small column erected. Megasthenes does not give the name of this Indian measure, but says that it consisted of 10 stades. This, of course, could be no other than the astronomical, or Panjabi coss,—one of which is equal to 1.23 British miles. "Pliny's account of this Royal road," says Mr Wilford, "is at first sight most extravagant, and, of course, inadmissible. But on considering the whole with due attention, we shall immediately perceive, that in the original, from which it was extracted, it consisted of two distinct accounts, or reckonings: the first was, that of the intermediate distances between every stage; and the second contained the aggregate sum of these distances for every stage. Pliny, whose inaccuracy is notorious, selected out of them only a few distances and stages here and there; and I have presumed to present the whole, arranged in the following manner:

From the Indus and Peucolais,	Roman miles.	
To Taxila, - -	60	—
Hydaspes, - -	omitted	120
Acessines, - -	ditto	omitted
Hydraotes, - -	ditto	ditto
Hyphasis, - -	49	390
There ended Alexander's conquests, and a new reckoning begins.		
Hesidrus, - -	168	

From the Indus and Peucolais,		Roman miles.	
Jomanes,		168	omitted
Some add 5 miles.			
Ganges,		112	ditto
Rodapha,		119	325
Calinipaxa,		167	500
Some say,	265		
Conflux of the Jomanes with the Ganges,		omitted	625
They generally add 13 miles. (638)			
Palibothra,		425	omitted

Here we have, first, 390 miles, from the Indus to the end of the conquests of Alexander—and thence, 638 miles, to the conflux of the Jumna with the Ganges; making in all 1,028 miles for the distance from the Indus to Allahabad. These distances were given in the original in stadia, which Pliny reduced into miles, at the rate of eight to one mile; and, by turning again his miles into stadia, we may easily find out the original numbers. Thus, his 1,028 miles give 8.224 stadia, at the rate of eight to one mile. Again, these 8.224 stadia, divided by ten, give 822.4 cos, or 205.6 yojanas, equal to 1,012 British miles; and Major Rennell, after a laborious and learned investigation, finds 1,030 miles between the Indus and Allahabad, through Delhi. 'But the Royal road, according to Pliny, from the context; and more positively, according to the Peutingerian tables, passed through Hastinapur; which gives an increase between the Indus and Allahabad, of 10 miles nearly, making in all 1,040 miles."

Hippalus—Discovery of the Monsoons.] The discovery of an obscure individual, in the age of Pliny, forms a new era in the history of navigation and commerce. Hippalus, a Greek seaman engaged in the Indian commerce, was the first to attempt a direct intercourse by sea with that country. By attending to the regular shifting of the monsoons, which blow one part of the year from the east, and during the other from the west, he was enabled boldly to quit sight of land and sail across the ocean, from the mouth of the straits of Bab-al-Mandab to the Indian coast, instead of the slow and dangerous method of creeping along the coast. This new route is described by Pliny in the following words:—" From Alexandria to Juliopolis," says he, "is two miles. There the cargo destined for India is embarked on the Nile, and is carried to Coptos, which is distant 303 miles, and the voyage is usually accomplished in 12 days. From Coptos goods are conveyed by land-carriage to Berenice, on the Arabian gulf. The distance between these cities is 258 miles. On account of the heat, the caravan goes only during the night, and the journey is finished on the twelfth day. From Berenice, ships take their departure about midsummer, and in 30 days reach Ocelis (Gella) at the mouth of the Arabian gulf, or Cane (Cape Fartack) on the coast of Arabia Felix. Thence they sail in 40 days to Musiris, the first emporium in India. They begin their voyage homeward early in the Egyptian month Thibi, which answers to our December. They sail with a N.E. wind, and when they enter the Arabian gulf, meet with a wind, S. or S.W., and thus complete the voyage in less than a year." From this detail we see how imperfect ancient navigation was, even in its most improved state. The voyage from Berenice to Ocelis could not have taken 30 days, had they held a straight course, instead of servilely following the windings of the coast. From Ocelis to Musiris, in modern navigation, would not occupy more than 15 days to an European ship,—the distance being 1,750 marine miles in a direct line. This Musiris was Merjee, on the Malabar coast, not far to the south of Goa. It is stated by

Pliny to have been an incommodious and inconvenient port, being so shallow, that it was necessary to discharge or take in the cargo in small boats at a distance from the emporium, besides exposed to danger from the pirates at Nitria. Another port, more commodious and better stored with merchandise, was named Barace, or Becare, in the country of the Niconidians; and as the pepper of Cottonara was brought thither in small boats, Barace was probably within or near the country of Canara, which produces the best pepper in India at present. The order of the places in going south is the following: Nitria, (Newtya) Tyndis, Musiris, Becare, Nelcynda, Cottiara, Comaria in Ptolemy. The Periplus of the Erythræan sea—about to be noticed—enumerates in the same order Tyndis, Musiris, and Barace, allowing 500 stadia between each. Now, these correspond to Goa, Merjee, and Barcelore. Nelcynda is Nelisuram, and said to lie in the kingdom of Pandion, the modern Madura, and Comaria is clearly Cape Comorin or Comry. These were the ports visited by the Roman traders from Berenice.

Periplus of the Erythrean Sea.] The particulars of the trade with the East, and the course followed by the vessels engaged in it, are preserved to us in a short but valuable work, the Periplus of the Erythrean sea, written by Arrian, supposed to have been a merchant of Alexandria. The age of this work cannot be positively fixed; but some of the ablest scholars are inclined to consider Arrian as a contemporary of Pliny. The Periplus, therefore, on this supposition, must be assigned to the second half of the first century of our era,—perhaps about A. D. 73, in the reign of Nero. He describes the whole western coast of India, from the Indus to Taprobane or Ceylon. The eastern coast is not so minutely nor so accurately traced as the western, though it is plain that there are allusions to Cavary, Masulipatam, Calingapatam, Coromandel, and other places, districts of the eastern coast. The countries beyond the Ganges, the Golden Chersonese, and the tracts towards China, are very obscurely noticed, though the information given respecting the trade carried on in these parts is much more minute and accurate. His description of the coast of India is, on the whole, surprisingly consonant to truth. According to him, it extends from north to south as far as Colchis, (Travancore) and then bends to the east, and afterwards to the north, and then again a little to the east, as far as the Ganges. He is the first author in whom can be clearly traced the name of the great southern division of India. The name he gives it is *Dachanabades: dachan* signifying 'south,' and *abad* 'a city.' Now, the modern term Deccan is applied to all the tract of India south of the rivers Nerbudda and Soane, or to the south of Baroche, the limit assigned by him. The particulars he mentions of the bay of Cutch, of Cambay, of Baroche, and the Ghauts, are so many proofs of his accuracy, respecting those parts of India which he visited in person. His great work comprises two parts: the first comprehending the coast of the Red sea and Africa, from Myos Hormos on the former, to the Rhapta on the latter,—and the second describing the whole coast of Arabia, beginning at Myos Hormos, as before, both as lying on the Red sea and on the ocean, and then stretching from the gulf of Persia to Guzarat, describing the Malabar coast to Ceylon. From Myos Hormos to Aduli, on the western coast, and Moosa on the eastern coast, he is not circumstantial in his narrative. The personal geographical knowledge which Arrian possessed of India, may be described as the arch of a circle extending from Minnagar, on the Indus, through Azene (Ougein to Tagasa) Dioghir, or the Godavery, of which

Barygaza (Baroche) is the centre. This arch contains three degrees of a great circle; but small as this knowledge is, it is day-light compared to what preceded it respecting the geography and commerce of India.

Indian Commerce.] Arrian's work fully establishes the maturity at which the commerce of the Indian seas had arrived in his days; and it may be proper here to introduce a slight sketch of this trade, from the notices of it contained in the Periplus. Aduli, or Masuah, the port of communication with Axuma, Arrian informs us, was subject to the king of Abyssinia, who held the whole coast from it to Berenice. Its exports were chiefly ivory, brought from the interior on both sides of the Abyssinian Nile, rhinoceros' horns, and tortoise shells; the imports were very numerous, forming an assortment as specific as a modern invoice. The principal articles were cloth of Egyptian manufacture, unmilled, for the Barbarian market, or the Berbers,'—robes manufactured at Arsinoe, (Suez),—cloths dyed in imitation of Tyrian purple,—linens, fringed mantles, glass or crystal, myrrhine cups, *aurichalcum* or mixed metal for trinkets and coin, brass vessels for cooking, iron for weapons and other purposes, knives, daggers, hatchets, &c.; brass bowls, wine, oil, gold and silver-plate, camp-cloaks and coverlets. The other articles imported into Aduli must have come through Arabia from India; they chiefly consisted of Indian iron, Indian cottons, coverlets and sashes made of cotton, cotton-cloth dyed the colour of the mallow flower, and muslins.

Beyond the straits of Bab-al-Mandab, four marts are successively mentioned on the Arabian side,—Abalitis, Malao, Mundus, and Mosullon. From Abalitis, myrrh of the finest quality was exported to Arabia, on the opposite side; this being purchased by the Greek merchants in Sabæa, was deemed by them a native production, whereas, according to the Periplus, it came from Africa. From Malao the exports were myrrh, frankincense, cassia, inferior cinnamon, gum, and a few slaves. From Mundus the only article of export was a fragrant gum, produced in the vicinity. At Mosullon were imported flint glass, and glass vessels, from Egypt,—unripe grapes from Diospolis, which were used to make the rob of grapes,—unmilled cloths for the Barbaric market,—corn, wine, and tin, which last must have come from Britain or Spain,—tunics, and cloths manufactured at Arsinoe, milled and dyed; iron also, and a small quantity of specie, were imported into Malao in addition to those specified at Abalitis. Mosullon was the chief market for cinnamon, the quantity of which was so great, that larger vessels were used for conveying it than were seen in the other ports of Africa. Whether this cinnamon was an Arabian or African production, is uncertain. The other exports were gums, drugs, tortoise-shell, incense, frankincense, brought from a distance, ivory, and a small quantity of myrrh.

Beyond Cape Gardefan were the marts of Opone and Rhapta.[8] At the latter place the customs were farmed by the merchants of Moosa, though the place was subject to one of the princes of Yemen.

On the Arabian side the Romans had a garrison and custom-house at Leuke-come, where all goods, whether imported or exported, paid a duty of 25 per cent. Thirty miles from the straits of Bab-al-Mandab was Moosa, the regular mart of Arabia Felix, or Yemen. The imports into this place were chiefly purple cloths of different kinds and prices,—manufactured Arabian garments with sleeves,—plain and mixed saffron,—a species of aromatic medical rush,—muslins, cloaks, quilts, made according to the fashion of the country,—sashes of various colours,—and corn and wine, and specie to pay the balance of trade. The exports from Moosa were myrrh of the best quality, gum, and very pure alabaster, of which boxes were made.

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[8] Rhapta was so called by the Greeks, because the native ships were raised from a bottom composed of a single piece of wood, and the sails were sewed to it instead of being nailed. In order to preserve the sewing, the whole exterior was covered over with gum. When the Portuguese first visited this coast, under De Gama, they found ships of exactly the same materials and construction.

Beyond the straits 120 miles was the village of Arabia Felix, (the modern Aden) and 200 miles farther east, Cane, or Cana, a port of great trade to Barygaza, Pattala, Oman, and Persia, as well as to the African ports beyond the straits. Cana was the capital of the Chatromitites, the inhabitants of Hadramaut, and probably stood immediately to the W. of Cape Fartack. The goods imported here were principally from Egypt, as wheat, wine, cloths for the Arabian market, brass, tin, Mediterranean coral —which was in great repute in India—storax, plate, money, horses, statues, and cloth. The exports were principally frankincense and aloes. At Syagros, or Cape Fartack, was a garrison for the protection of the place, which was the depot of all the incense collected in these parts. The first mart beyond Syagros was Moscha. The Sacchalitic incense collected here for exportation was so abundant, that it lay in heaps with no other protection than that which was derived from the gods, for whose sacrifices it was intended. No person could procure a cargo of it without the express permission of the king; and all vessels were so thoroughly observed and searched, that not a grain of it could be clandestinely exported. The intercourse between Moscha and Cane was regular, and the former was besides frequented by such ships from India as arrived too late in the season, where they continued during the unfavourable monsoon, exchanging muslins, corn, and oil, for frankincense. The pearl fishery in the Persian gulf, and Apologos, a celebrated mart at the mouth of the Euphrates, are mentioned in the Periplus. The fishery is described as extending from Mocandom (Mussendom), the extreme south point of the Persian gulf, to Bahrain. Apologos is the modern Obollah on the canal reaching from the Euphrates to Bassora. At Omana in Gedrosia were imported from Barygaza in India, brass, sandal wood, timber (perhaps teak), horn, ebony, and frankincense from Cane. This is the first port, the trade of which included ebony and sandal wood. The exports to Arabia and Barygaza were purple cloth for the natives, wine, a large quantity of dates, gold, slaves, and pearls of an inferior water.

There were two places on the Indus frequented for the purposes of commerce, namely, Barbarike, near the mouth of the stream, and Minagara, higher up, whose sovereign possessed the whole coast of Barygaza. As it was of great consequence to secure the favour and protection of this potentate, very valuable presents used to be made him, as musical instruments, handsome virgins for the harem, wine of the very best quality, cloth of the finest sort, and perfumes. The exports were costus, bdellium, a yellow dye, spikenard, emeralds, sapphires, cottons, silk thread, indigo—or perhaps the *indicum* of Pliny which was probably Indian ink—skins, with the epithet *serica* prefixed to them, but of what kind is not known. The wines imported were of three kinds; namely Syrian wine (still celebrated), Italian, and Arabian wines. The produce of the district of Barygaza was oil of Sesamum, rice, corn, ghee or butter, and cotton. The prince of this place was so anxious to render it the only mart, that he would not permit ships to enter any of his other harbours: if they attempted it they were boarded and carried back to Barygaza. Here were collected all the produce and manufactures of this part of India, some of which were brought down the Nerbudda, others were conveyed across the mountains by caravans. The merchandise of Bengal, and even of the Seres, was collected here, besides the produce of Africa and Southern India. Business was conducted in a masterly manner; for such was the despatch used in managing it, that a cargo could be entirely landed and sold, and a new cargo obtained and shipped in the space of three days. From Ozene to the north-east of Barygaza, were brought for exportation, onyxes, porcelain, fine muslins, muslins dyed of a melon colour, and cotton cloths in great quantities; and from the Punjaub, spikenard of different kinds, bdellium, ivory, myrrhine cups, myrrh, pepper, &c. The imports were wines of Laodicea, Italy, and Arabia, brass, tin, lead, coral, topazes, cloth of different kinds, sashes, storax, sweet lotus, white glass, stibium, cinnabar, and a small quantity to perfumes. A considerable quantity of grain was also imported. Twenty days' journey to the south of Barygaza was Plithana, and ten days' journey east of this last was Tagara, both marts of great consequence, and the latter the capital of the country. From these were brought down, through difficult roads, several articles to Barygaza, as onyxes from Plithana, and cottons and muslins from Tagara.

Tagara—as Wilford has shown—is identical with Deogire, a place of great antiquity, and famous through all India on account of the wonderful excavations of Elora. Ariace, of which it was the capital, contained the greatest part of the Soubahdry of Aurungabad, and the southern part of the Concan, for the northern part belonged to the rajah of Larikeh, called Sandanes in the Periplus, including Damaun, Callian, the isles of Salsette, and Bombay. The phrase *ανοδιαι μεγισται* in the Periplus, or the Maximi Ascensus, over which the goods were brought, means the Bala-Gauts, and is the first time in which these mountains were heard of in Europe. The goods were brought down from these high mountains to the Concan or low-country, and thence to Baroche. Plithana is the modern Pultanah on the southern bank of the Godavery, 217 miles to the south of Baroche. The onyxes, and several other precious stones mentioned in the Periplus, are still found in its vicinity, being washed down by torrents from the hills, as related by Pliny.

In the description of the coast south of Barygaza, the pirate coast follows first, and then that of Canara, called Limurike, and then Pandion, or the Malabar coast. In Limurike was the port of Musiris, or Merjee. The imports here were nearly the same as at Barygaza, but the exports were more numerous and valuable, being principally pearls in great abundance, and of extraordinary beauty, a variety of silk stuffs, rich perfumes, tortoise shell, different kinds of gems, especially diamonds, pepper in large quantities, and of the best kind. "At Musiris the Greek merchants met the traders from the East, and not having any occasion to proceed further along the coast, the minute accuracy of their information terminates at this point. Yet some may have occasionally ventured to navigate the seas to the eastward of the peninsula; and the reports of these, added to the relations of the natives, extended the geography of the Greeks as far as commercial intercourse existed in the East, that is, to China; for the error of those commentators must be carefully avoided, who studiously confine the knowledge of the Greeks to the countries which they actually visited, and make no allowances for hearsay information. Yet their picture of the East grows gradually more vague and imperfect as we advance from Musiris, until it at length terminates in names of places obviously learned at second-hand, and accompanied with such palpably erroneous indications of position as do not merit the slightest attention."

The port of Nelcynda, the limit of the personal knowledge of the author of the Periplus, was a place of very great trade, principally in betel-nut and pepper, pearls, ivory, silks, spikenard, precious stones, and tortoise shells. The imports were chiefly specie, topazes, cloth, stibium, coral, glass, brass, tin, lead, wine, grain, &c. The ports south of Nelcynda were frequented chiefly by the country ships, which carried on a lucrative commerce between them and the ports in the north of India. The exports of Taprobane, or Ceylon, are mentioned as consisting chiefly of pearls, gems, tortoise shells, and muslins; but cinnamon is not once named, a decisive proof that the author had never visited that island.

Of the countries beyond Cape Comorin, the knowledge communicated in the Periplus is merely from report; but respecting commerce is surprisingly accurate. The Gangetic muslins are praised as the first of the sort. Gangetic spikenard is also noticed. The other articles of traffic in the ports on the Ganges, were betel and pearls. Thina is mentioned as a city in the interior of a country immediately to the north, at a certain point where the sea terminates, from which silk-wool and manufactured silks were brought by land through Bactria, to Barygaza, or else down the Ganges, and thence by sea to Limurike. The means of approach to Thina are represented as very difficult. Some merchants, however, came to a great mart held annually near it. The Sesatæ, who from the description seem to have been Tartars, came thither with their wives and children. They are described as squat, thick-set, with their face broad, and their nose greatly depressed. The articles they brought for trade were of great bulk and enveloped in mats made of rushes, which in their outward appearance resembled the early leaves of the vine. Their place of assembly was between their own borders and those of Thina, and here, spreading out their mats, they held a fair for several days, and at the conclusion of it returned to their own country in the interior.

Periplus of the Euxine sea.] The Periplus of the Euxine sea, a work the age of which cannot be positively fixed, was a valuable contribution to the geographical science of the ancients. It is generally attributed to Arrian of Nicomedia, who appears to have been a favoured and confidential officer under the emperor Adrian. The Periplus is a short tract, consisting of three parts: viz. 1*st*. The report of the author's own voyage from Trapezus to Dioscurias. 2*d*. The account of the distances of places from Byzantium to Trapezus. 3*d*. The account of distances from Dioscurias, round the northern and western coasts, to Byzantium. This part has not so much the appearance of being the result of the author's own observations as the two former, but probably was collected to complete his account.[9]

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[9] The opening of the Periplus is particularly interesting, as exemplifying the mode of flattery then offered to the Roman emperors, and several other particulars relating to the manners of those times:—"We came in the course of our voyage to Trapezus, a Greek city in a maritime situation, a colony from Sinope, as we are informed by Xenophon, the celebrated historian. We surveyed the Euxine sea with the greater pleasure, as we viewed it from the same spot whence both Xenophon and yourself had formerly observed it. Two altars of rough stone are still standing there; but, from the coarseness of the materials, the letters inscribed upon them are indistinctly engraven, and the inscription itself is incorrectly written, as is common among barbarous people. I determined, therefore, to erect altars of marble, and to engrave the inscription in well-marked and distinct characters. Your statue, which stands there, has merit in the idea of the figure and of the design, as it represents you pointing towards the sea;

He compiled also an account of India, chiefly from the writings of Nearchus and Megasthenes, the ambassadors of Seleucus Nicanor; it relates principally to the northern parts, and contains a variety of matter purely mythological relative to Hercules and Bacchus. The following account of the alarm caused by the appearance of whales is amusing. We quote from Dr Vincent's translation: "Whales are found in the [Indian] ocean, of a much larger bulk than those in the Mediterranean. For Nearchus relates that, as the fleet passed Kuidza, the water was seen thrown up to a great height, as if it had been raised like a water-spout; and that, upon this strange appearance, they were alarmed, and enquired of the native pilots what might be the cause of this occurrence. They received for answer, that it proceeded from whales sporting in the water, and blowing it up from their nostrils. The seamen, however, were so astonished, that the oars dropt from their hands. Nearchus immediately ran up through the fleet with his own ship, and as he passed directed the commanders to form a line, with their head towards the monsters, as if they were going to engage; at the same time ordering the people to raise the shout of war with all their force, to exert their strength to the utmost, and to dash the waves violently with their oars: upon this they recovered from their alarm, and advanced upon the signal, as if going into an actual engagement. And now at the moment when they were close to the enemy, the clamour of the crews was carried to its highest pitch, the trumpets sounded the charge, and the dashing of the oars resounded on every side: upon this, the monsters seen a-head plunged into the deep as if frightened by the attack, and, rising again a-stern, continued to blow as magnificently as before. The danger was past, the seamen shouted and clapped their hands upon their unexpected deliverance, and the judgment of Nearchus was as much their admiration as his fortitude."

Pausanias.] Pausanias, of Cæsarea in Cappadocia, a learned grammarian, flourished at the same time with Arrian, and was intimately acquainted with the state of geography in his age. He travelled into Greece, Italy, and Asia Minor, at a very favourable period, when the munificence of the emperor Adrian, as well as of private citizens, had restored to the former interesting country some of its most magnificent ornaments; and his accuracy in describing seems to have kept pace with his diligence in exploring; for he has given in his description of Greece—which is still extant in ten books—a minute and faithful account of every town and place of note, of

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but it bears no resemblance to the original, and the execution is, in other respects, but indifferent. Send, therefore, a statue worthy to be called yours, and of a similar design to the one which is there at present, as the situation is well-calculated for perpetuating, by these means, the memory of any illustrious person. A fane or temple is there constructed, built of squared stone, and is a respectable edifice; but the image of Mercury, which it contains, is neither worthy the temple, nor the situation in which it stands. Wherefore, if you should think proper, send to me a statue of Mercury of not more than five feet in height, as such a size seems well proportioned, and suitable to that of the building. I request also a statue of Philesius of four feet in height; for it seems to me reasonable that the latter should have a temple and an altar in common with his ancestor. Hence, whilst some persons sacrifice to Mercury, and some to Philesius, and others to both, they will all do what is agreeable to both these Deities; to Mercury, as they honour his descendant; to Philesius, as they honour his ancestor. Wherefore I myself sacrificed an ox there; not as Xenophon did in the port of Calpe, when he took an ox from a waggon on account of the scarcity of victims; whereas here the Trapezuntines themselves furnished no contemptible sacrifice. We examined the entrails of the animals sacrificed, and performed our libations upon them. I need not mention to you in whose behalf we first offered our prayers, as you are well acquainted with our custom on such occasions, and as you must be conscious, that you deserve the prayers of all, and especially even of those who are under less obligations of gratitude than myself."

the public buildings contained in them, particularly those devoted to pious purposes, and of the various decorations with which architecture, painting, and statuary, so profusely furnished them. Nor does it present a mere detail of names, interesting only to the profound scholar, or to the laborious antiquarian. The minuteness of topographical research is suspended often for excursions into the wider field of history; and the recital of the labours of the artists is enlivened by occasional anecdotes. Accordingly this work has been constantly referred to by every classical traveller, from the days of Spon and Wheeler down to the present day; but the detail of his other travels is lost.[10] A Monthly reviewer has instituted the following comparison between Pausanias and his predecessor Strabo: "Strabo, who flourished nearly two centuries before, had already given to the world a system of geography in long and minute detail: but he had been found to have too frequently sacrificed accuracy to elegance, and to have substituted conjecture for truth. The polite refinements of the Augustan age gave more encouragement to the songs of the poet, and the cultivation of the fine arts, than to the progressive advancement of geometrical science. At a later period, when the Romans, either from curiosity or political motives, had been induced to visit the interior of every part of Greece, and to extend their researches into the distant provinces of the empire, a more exact account of this highly-favoured country, and of its remarkable cities and districts, began to be daily demanded with increasing eagerness. After a long interval of calamity and war, in which we hear of little else than bloodshed and devastation, excesses and debaucheries, science began at length to revive. The learning of Adrian, his example, and the various endowments of his mind, gave shelter to the rising plant, and the peaceful reign of Antoninus nourished and preserved it. While Strabo then, fluent and harmonious, engages our attention by the purity of his style and the brilliancy of his colouring, Pausanias, in language trite and sententious, describing with precision all that he has observed with discernment, relieves the mind at intervals by an agreeable variety, and a happy intermixture of local tradition, from the tediousness of geographical detail. To the tourist in Greece, the works of Pausanias are invaluable: he is the universal guide and companion to every one who, like himself, makes those delightful regions the object of inquiry; and the more diligently he is examined, the more suffrages he obtains. He is never at fault: because, his field lying within a compass comparatively small, he was enabled to visit and explore at leisure that which he had undertaken to record. The works of Strabo, on the other hand comprising an account of every part of the known world, embrace a sphere much too extensive for correct personal investigation, and oblige him too frequently to rely on the authority of others for that which he alleges as undoubted and indisputable fact."

Marinus.] Marinus, of Tyre, who preceded Ptolemy, was distinguished by his geographical knowledge; but he seems, from Ptolemy, to have been a credulous and inaccurate writer.

Ptolemy.] We have now arrived at the name of Ptolemy, by far the most celebrated geographer of antiquity. Both his systems of astronomy and geography stood unimpeached for upwards of 1200 years; and, though the system of Copernicus is confirmed by Newton and perfected by La Place, has totally superseded the ancient one of Ptolemy, yet, as a geographer, his name is still respected, and his authority revered, even by those who have made the greatest advances in geographical science. This eminent person was born at Pelusium in Egypt, in the 70th year of the Christian era, and taught astronomy in the city of Alexandria, at that time the centre of an immense commerce. The opportunities which he thus possessed, of acquiring geographical information from the itineraries of merchants, and conversation with the natives of distant regions, were zealously improved by him;—and in addition to these original sources of knowledge, he possessed a considerable stock of materials in the geographical treatises of his predecessors, few of which have escaped the wreck of antiquity.[11] In the application of astronomy to geography, he followed the plan of Hipparchus, principally comparing it with those of Eratosthenes and other philosophers. He examined the proportions of the gnomon to its shadow, at the times of the equinoxes and solstices—calculated eclipses—investigated the calculations founded on the difference of climate. The materials thus collected with so much care he reduced into a regular and well-connected system; expressing the position of places, not by climates and horary intervals, but by degrees of longitude and latitude, after the manner of Hipparchus. "By thus fixing the multitudinous and unconnected details of geography on the basis of mathematics, he gave to the former science a unity and a solidity which it was incapable of ever attaining without that fortunate alliance. But his invention (if, to avoid discussion, we allow it to have been his,) was not one of those which startle mankind by its boldness, or which seem to anticipate the ordinary progress of ages to come. On the contrary, it was, perhaps in a higher degree than any other valuable discovery, the fruit of long experience, gathered with little effort, at the last stage of a lingering maturity, protracted far beyond what might have been expected from the vigour of its first bloom. The scarcity of books in ancient times presented a great impediment to the advancement of science. The accumulation of knowledge was far more difficult then than at the present day. Contemporary authors were often ignorant of one another's labours, and this observation applies even to the Augustan age, and to the Alexandrian writers. Hence the extremely slow developement, or the suspended vitality, as it were, so often observable in the germs of important truths among the ancients. Thales taught the sphericity of the earth, yet centuries elapsed before Eratosthenes thought of determining the relative situation of places by means of latitudes; and after that step was gained, three centuries more passed over, centuries of cultivation and general improvement, before Ptolemy made the obvious and the requisite addition of measures of longitude."[12]

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[10] Six editions of Pausanias have appeared; besides several translations, amongst which is an excellent English one by Taylor. The edition of M. Clavier, published at Paris in 1814, in 6 vols. 8vo., is the best.

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[11] "A complete survey of the Roman empire was executed by order of Agrippa, the son-in law of Augustus. Pliny wrote a history of Germany; Seneca an account of India, in which (if we may judge of it from the fragments preserved in Pliny) he entered into very minute statistical details. The writings of king Juba also appear to have been rich in the fruits of geographical as well as antiquarian research. But the course of events continually opened the world more and more to examination: the wars of Trajan with the Daci; his expeditions into Parthia and Arabia, were all attended with the exploration of countries but little known before. Then the peaceful reigns of Adrian and of the Antonines, whose wise administrations reaped all the benefits of Trajan's activity. Ptolemy, whose manhood commenced with the reign of this great prince, and whose life closed in the tenth year of Antoninus Pius, had the good fortune to live in that age, which, if we were to confine our attention to the general spread of information and the activity of commerce, might perhaps be deemed the most prosperous and flourishing of Roman history. It is no wonder, therefore, that his geographical writings should bear abundant evidence of a more intimate acquaintance with foreign countries.—*Cabinet Cyclopedia.*"

The geography of Ptolemy forms little more than an elementary picture of the earth, (if it may be so called,) in which its figure and size, and the positions of places, are determined. There is only a very short outline of the division of countries, and it is seldom that any historical notice is added. It is supposed, however, that, in addition to this outline, Ptolemy gave a detailed account of the countries then known, but which is now lost. This is the more to be regretted, as it might have led to a solution of many difficulties in his Asiatic geography, which are justly deemed insuperable. Maps for his geography were constructed by Agathodæmon, who lived in the 5th century. These were inserted in some of the oldest printed editions, were afterwards copied by Mercator, and republished by Wetstein, at Amsterdam, in 1730. He calculated the circumference of the globe at 180,000 stadia. The Arabian geographers—who were well acquainted with the measures of Ptolemy—inform us, that 180,000 stades are equal to 8,000 farsangs. A parasang or farsang contained 22½ stades, every one of which comprehended 600 great cubits, of 1,824 English feet each. Hence, the circumference of the earth according to Ptolemy, is 24,873 English miles.[13]

One material improvement made by Ptolemy in geography, was the method of determining longitudes by means of lunar eclipses. Previous to his time, the ancients ascertained the distances of places from the first meridian, as the Fortunate islands, or the Sacrum Promontorium for instance, either by actual measurement, or by the computations of travellers and navigators. Of these modes, the former one was very limited, and the latter extremely precarious. Though the observations made by Ptolemy for the determination of longitudes were not sufficiently accurate, yet the principle on which he went is just, and has been adopted by modern geographers and navigators. The motion of the earth round its own axis being from west to east, the observation of the moon's disk, at the time of an eclipse, will be soonest made in places of greatest eastern longitude, and *vice versa*,—later as the longitude diminishes, in the proportion of one hour for every 15 degrees. If, then, a lunar eclipse be observed, by means of well-regulated chronometers in two places of different longitudes, the times of corresponding observations will be found to differ proportionally to the longitudes of these places. But this method of finding longitudes is not sufficiently accurate on several accounts, resulting from the state of the lunar phasis at the time of observation and other causes. Ptolemy, however, by these observations ascertained the longitudes and latitudes of many places with tolerable accuracy. But most of his positions were determined by doubtful computations, and when false or uncertain premises are admitted to be true, erroneous conclusions must certainly follow. Ptolemy's errors are to be attributed partly to the ignorance of the age in which he lived, and partly to his own inattention and credulity. For such mistakes as originated in the imperfections of his information, he is no more to be censured than our own modern geographers for their comparative ignorance of central Asia or the interior of Africa; but his errors respecting those parts of the world which had been successively explored by the Greeks and Romans, are less capable of excuse, and must be ascribed to too implicit admission of the observations and reports of others. He begins his geography with an account of the British islands. And here we find Great Britain extended 3 degrees too far to the north; while Scotland is most unaccountably represented as running from west to east, in a direction parallel with the coast of Germany, having the Mull of Galloway as its most northern point. It is indeed strange that the Egyptian geographer should not have known better, for he lived after the time of Agricola, who had with his victorious legions advanced to the foot of the Grampians; and the Romans had sailed round the most northern point of Scotland. He is pretty accurate, however, in his location of the different Caledonian tribes who then inhabited the northern part of the island, and a great number of places are laid down by him with a tolerable relative correctness. Strabo had placed Ireland to the north of Britain, but still in its true latitude: Ptolemy's map —which is the first geographical document of that island—places it to the west of Britain, but 5° too far north. Its general shape, rivers, and promontories, are tolerably well delineated, and some of his towns may be traced in their present appellations, as Dublin in *Eblana*, placed by him in 59° 30′ N. lat.; whilst the *Rogobdium Promontorium*, its most northern point, is placed in 61° 30′ N. lat.

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[12] Lardner's Cyclopedia.

[13] One degree of 500 stades is equal to 69.10 miles,—400 great cubits multiplied by 1.824 feet, make 729.6 feet or one stade; 22 and a half stades make 16,416 feet, or one farsang; and 8,000 farsangs are equal to 131,328,000 feet, or 24,873¾ miles, 60 of which are equal to one degree, or 69.10 English miles. If, with Herodotus and Strabo, the parasang be calculated at 30 stades, each containing 300 great, or 400 common cubits, the result will be precisely the same as above, the common cubit being 1.368 English feet. On the other hand, supposing the parasang to consist of 30 stades, each containing 400 great cubits, the earth's circumference, as stated by Ptolemy, will amount to 33,164 miles, and one degree be nearly 92 English miles. Again, if Ptolemy used the stade of 400 great cubits, while Posidonius used that of 400 common cubits, the disagreement between their different computations of 240,000, and 180,000 stades, would be merely apparent: for 180,000 stades of 729.6 feet are equal to 240,000 stades of 547.2 feet, and 500 of the former to 666 2-3ds of the latter.

In the north of Europe the knowledge of Ptolemy does not extend beyond that of his predecessors. It is clear that, under the name of *Scandea* he means what was called *Scandinavia*, but, like all the other ancients who have named it, he divides it into a number of islands. He does not mention the *Suiones* or Swedes; but to the east of Jutland, or the Cimbrian Chersonese, he places four islands, the largest and most remote of which, called *Scania*, is evidently intended to represent Sweden; but his particulars are, as usual, abundant. He mentions the Danes by the name of *Daukiones*, softened from their ancient appellation of Daunskin, or Daunskion. He is also the first ancient writer who names the Saxons. The extreme southern and northern points of his world are the *Prassum Promontorium*, in the cinnamon country, S. lat. 15° 30′, (15° in my copy) and Thule, in Shetland, 63° 15′ N. lat, Thus the breadth of his world was only 78° 45′, or 4,725 geographical miles. This shows his knowledge of the north of Europe to have been very limited, when it did not ascend beyond the boundary of the Shetland isles. His knowledge of European and Asiatic Sarmatia was very limited. He indeed describes the course of the Rha or Volga pretty correctly, from the north-east to its most western winding, near the Tanais or Don; and he describes a large river running west from the Hyperborean mountains, (the Werchaturian range) to the Rha, which seems to indicate the Kama or great eastern branch. The Tanais is laid down much more correctly than the course assigned it by Strabo. He seems to have been acquainted with the southern coast of the Baltic, from the southern Dwina to the Cimbrica Chersonesus, but he stretches the Chersonese 2° too far north, and bends it too far east.

The form which he assigns to Italy is much farther removed from the truth than that of most of the countries he describes. His error respecting the length of the Mediterranean sea is enormous, being not less than 64° 20′ of longitude; for, in his tables of Asia, Issus is placed in 69° 20′ east of the Fortunate islands, and 64° 20′ east of the straits of Gibraltar. The only solution of this extraordinary error of longitude is, that he assumed the computation of Strabo as the real distance in a direct line. Now Strabo had computed the distance from the Sacrum Promontorium to Issus, to be 27,500 stades. Subtract then 1,458 stades, the distance of that cape west of the Fretum Gaditanum, and the result will be 26,042 stades for the length of the Mediterranean, according to Strabo. Ptolemy taking this for the real direct distance, divided it by 400 stadia to a degree in the parallel of Rhodes. But the stadia of Strabo, divided into degrees of 4½° each, amount precisely to 65 degrees and 42 stades, or 65° 6′, which is 46 minutes more than the longitude of Issus in his table of Cilicia. He first assumed, next divided, and then found the longitude of Issus to be what he has stated in that table. Had he divided by 700 stadia to the degree—the stades of Strabo—the error would not have amounted to five degrees, the result being only 262 English miles more than the truth. Prodigious, however, as this error is, making the length of the Mediterranean upwards of 3,600 English miles in the parallel of 36°, it was copied by all the geographers and map-makers down to the middle of the 17th century!

The longitude of the Euxine was also extended in Ptolemy's tables 440 degrees beyond the truth. By correcting the erroneous opinion which, against the authority of Herodotus, supposed a communication between the ocean and that inland sea, he offers another proof of the progress of geography; but instead of following Herodotus, in assigning to the Caspian its greatest dimensions from north to south, he totally inverted its form, making it extend from west to east. He has prodigiously over-rated its length, extending it 23½° of longitude from the mouth of the Cyrus, (Kur) in 79° 40′ E. long. to that of the Polytimetus, in 103° E. long. This extension in the parallel of 45° N. lat., gives a length of 1,153 English miles, which multiplied by the 5° of medial breadth assigned to it by him, make a superficies of 400,000 English miles, or nearly thrice its actual surface. It was one consequence of this enormous error, that the Scythians and Seres were placed 36° too far east, or 1,800 English miles: for it must be also remarked, that Ptolemy placed the western extremity of the Caspian sea 16° too far east in respect of the Fortunate islands, which, added to 20° which he has assigned to the longitude of the Caspian beyond the truth, make 36°. Had the error died with himself, it would have been of very little consequence, and merely have remained as a monument of ancient ignorance known only to the learned. But though his error respecting the Caspian sea was partly corrected by the oriental geographers, who ascribed an oval form to it, and made its greatest extension to be from north to south, in agreement with Herodotus, and although Ebn Hawkel and Abulfeda distinguished it from the lake of Aral, which they denominated the sea of Khowarazm, and conducted the courses of the Oxus and Jaxartes into it, instead of the Caspian, as Ptolemy had done; yet, after the revival of letters in Europe, the computation of Ptolemy was adopted. Geographer on geographer in succession copied his maps, and sanctioned his errors, till within the last 100 years, when the truth came out that this geographical oracle had given an erroneous response. Even such literary giants as Salamasius, Bochart, Vossius, and Cellarius implicitly adopted the errors of Ptolemy. Vossius is very angry with Olearius (Œlschlæger, a learned professor of Leipsic, who accompanied the Holstein ambassador to Persia in 1633, and who had himself explored the Caspian sea from the mouth of the Volga round about to Ferabad in Mazanderaun, for daring to question the authority of Ptolemy, and the other "knowing ones of antiquity," and for maintaining that the length of the Caspian was from south to north, and not from east to west, as Ptolemy had described it. Anthony Jenkinson had explored its northern shore round about from Astracan to the mouth of the Yemba, and thence to the bay of Balkhan, (called Boglatan by Vossius.) So that all that was required to ascertain the real figure of the Caspian was merely to explore the space between the bay above mentioned and Ferabad. In spite, however, of both Jenkinson and Olearius, geographers still adhered to Ptolemy—such is the magic of a great name, and it was not till the middle of the last century that the illustrious D'Anville gave us the true figure and extent of the Caspian sea.[14]

Some particulars of the interior of Africa were distinctly known to Ptolemy: he is the first of the ancients who announces with certainty the existence of the river Niger, though he has fixed its source in a wrong latitude. On the banks of this river, which he describes as flowing from west to east, till it terminates in a lake, he places the towns of Tricabath, Nigira, Gana, and Panagra; these two appear to be the Ganah and Wangara of modern travellers; the claims of the two former to be Timbuctoo and Cashnah are much more questionable. He allows too great extent to the southern parts of the interior, whilst at the same time the Sahara, or Great Desert, is proportionally contracted. He places the sources of the Nile, and the Mountains of the Moon in 13° S. lat., instead of 6° or 7° N. lat.; but it is clearly manifest from his description, that his Nile is not the Abyssinian river, but the Abiad, or White River. Even this error, however great, is not so unaccountable as that with respect to Cape Aromata, or Guardafu, which he places in 6° instead of 11° 50′ N. lat., its true latitude,—a position which was every year visited by merchants, whom he must have seen at Alexandria. Respecting the Ghir of Central Africa, modern geographers are as much at a loss where to find it, as they were till of late to find the course and termination of the Niger. He erred also, not less than 4½° in the latitude of Carthage, which he makes 32° 21′, instead of 36° 51′. This error, which removed the African coast so far south, remained unnoticed till the commencement of the 17th century, when it was observed, and in some degree corrected, by Willebord Snellius. Where the *Agisymba* of Ptolemy is, none can tell, but he places it 16° 25′ south of the line. Beyond this, he stretches Africa to the South Pole, and denominates all the region south of Agisymba, *terra incognita*.

The most remarkable portion of Ptolemy's geography is that which treats of the countries lying to the east of the Ganges, and his route to the Seres. The whole of India is by Ptolemy divided into two great regions denominated *Intra* et *extra Gangem*—a division which, till very lately, all modern geographers adopted, with the addition of the *Regio Sinarum*, thus including under India as a generic term, all the tract from the mouth of the Indus to the south-western extremity of China. He extended India, on the northern side, from 119°, the eastern limit of Paropamisus, to the north-west end of the Montes Semanthini, in 170° E. long., and 33° N. lat. 51° of a great circle, or 3060 geographical miles. On the southern side, he extended its longitude from the western mouth of the Indus, in 110° E. long. to the mouths of the Aspithara, in 175° E. long. and 16° N. lat. or 65° of a great circle. Nay, he seems to have made the whole course of the Aspithara its eastern limit, enlarging its longitude to the south-east extremity of the Semanthine Mountains, in 180° E. long. and 26° N. lat. where he fixes the sources of the Aspithara. The northern limit of India Intra Gangem, he makes to be Imaus, the whole way, from the western extremity of the Hindoo Kho, to 145° E. long. and 35° N. lat. or 9° to the east of the source of the Ganges. This range, he says, divides India from Sogdiana and the Sacæ. As the Sacæ, therefore, are represented as inhabiting all the space north of the Imaus, as far east as 145° E. long. it must have included all the tract eastward of the Beloor-Taugh to the lateral range, connecting the Southern with the Northern Imaus, and separating Eastern from Western Tibet. The hilly region extending south from the Imaus to the plains, he ranges successively under the names of the mountains of the *Lambatæ*, the *Comedi*, *Suastene*, *Daradæ*, *Caspiria*, and *Culindrine*, corresponding to the modern Lumghanate, Kaufeerustaun, Sewad, the valley of the Upper Indus, Cashmere, and the hilly tracts successively watered by the Jhylum, Chunaub, and Rauvee. Culindrine is the hilly region watered successively by the Beyah, Sutlej, Jumna, and Ganges. East of the Ganges, Ptolemy's boundary of India is still the Imaus, carried eastward under the names of Emodus and Ottorocorras, but he seems to have included Tibet within that boundary, as the ranges immediately bounding the plains of India are called Bepyrrhus and Semanthinus. Of course I take the former to be the northern boundary of Tibet, and the southern limit of his Scythia and Serica, and the latter ranges, those which separate India from Tibet. How far the knowledge of Ptolemy extended east of the mouths of the Ganges it is impossible precisely to determine, and equally so to determine the position of his *Regio Sinarum*. It is clear to me that his *Sinæ* are not the Chinese, but who they are, I am unable to say. D'Anville supposes them to be the Cochin Chinese, and the *Sinarum Metropolis* to be Sinhoa, in 127° E. long. which he makes to be the eastern point of Ptolemy's knowledge. On the contrary, Gosselin makes the Sinæ to be the Siamese, their capital to be Tenasserim, and Mergui to be Cattigara. On the one hypothesis Ptolemy's longitude is 53°, and on the other nigh 62° too far east. If Ptolemy's *Dorias* be the river of Chittagong, his *Tocosanna* the river of Aracan, his *Daonas* and *Serus* be the Keenduum, and the river of Ava, as Wilford thinks, and his *Regia Triglyphon* be the city of Arracan, then the city of Siam must correspond to the metropolis of the Sinæ. But whether it be Siam or Sinhoa, his latitudes are nearly as far wrong as his longitudes, for he has stretched India Extra Gangem, to 4° south of the equinoctial line, and has placed the Sinarum Metropolis, 8° 30′ south of the line. Now, this position is about 20° south of the sites of these cities, and if any should imagine Nanking, or Tsinanfu, to be the Sinarum Metropolis, the matter is rendered still worse, as they are more than 40° north of his Sinarum Metropolis. It is true that if we reckon the longitude eastward from the source of the river of Caubul, to the eastern point of the peninsula of Shantong, the amount will be 71°, or 3,976 English miles, or 10° more than his ultimate eastern point, but it must be remembered, that as his degrees are those of a great circle, the intermediate distance on his map, is near 3° more in the parallel of 36° N. lat., and if Tsinanfu be reckoned his Sinarum Metropolis, still the intermediate distance is 8° too much, although it be 4½° farther east from the western point of India, than in his table, the whole reason of which is, that his degrees are those of a great circle, and divided by 400 stades each. Even in this case, Tsinanfu is 58° too far east of the Fortunate Isles, from this very reason, that his position of the eastern limit of Paropamisus, is 50° too far east. If a line be drawn south-east from the most western mouth of the Indus, in 67° E. long. to Sinhoa, in Cochin China, in 127° E. lon. and 17° N. lat., the distance will be 60° of longitude, and 8° of latitude, whereas by Ptolemy, the intermediate distance is 70° of longitude, and 33° of latitude; and if Siam be his Sinarum Metropolis, the errors in longitude and latitude are still more enormous, being 60° of a great circle too far east. Beyond the *Sinus Magnus*, whether it be the gulf of Martaban, or gulf of Siam, he conceived the continent to stretch south-west from Cattigara, embracing what he calls the Green Sea, as far as the Verdant Cape, on the eastern coast of Africa. If the theory of Gosselin be admitted, the ancients never passed the straits of Malacca, and of course, the coast stretched according to his view of Ptolemy, from Morgui, in the Malay peninsula, south-west to the point above mentioned. If the Sinus Magnus be the gulf of Siam, as D'Anville thinks, then Cattigara must have stood a little to the north-west of the southermost point of the peninsula of Camboja, and the coast must have stretched south-west from thence, as far as Cape Prassum on the African coast. The ancients, therefore, cannot have sailed beyond the southern Cape of Camboja, and of course, I cannot think that Sinhoa in Cochin China is the Sinarum Metropolis of Ptolemy; for in that case, the ancients must have turned the southern cape of Camboja, and sailed north-east along the coast as far as the entrance of the gulf of Tonking, and must in that case have seen that the coast, instead of passing to the south-west, ran to the north-east. The Sinarum Metropolis, or Thinæ, for it goes by both names in Ptolemy, seems to have been situate at a distance from the sea, north-east of Cattigara, on the Cotiaris, or river of Japan. This is all we can say of the matter, and it is impossible to arrive at any certainty respecting Ptolemy's geography in this quarter. His knowledge of the coasts eastwards from the Indus, to this point, seems altogether to have been derived from the imperfect accounts of navigators, who had little or no knowledge of the bearings or direction of the courses of their ships.[5]

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[14] I suspect that the foundation of Ptolemy's error lay with Eratosthenes, from whom he seems to have copied his extent and figure of that sea. Eratosthenes had assigned it an extent of 12,600 stadia in length, which Pliny, according to his usual custom, converted into Roman miles, and Ptolemy into degrees of 500 stadia each, or 25 degrees in whole. Now Ptolemy's degrees come within 750 stades of the computation of Eratosthenes, from which I think it probable that both he and Pliny copied Eratosthenes.

Of his route to the Seres, which makes so conspicuous a figure in his tables, it is to be remarked that it is not the result of his own knowledge, but wholly copied from Mariners of Tyre, who preceded him by 60 years, and who in his turn declares that he drew it up from information furnished him by the son of a Macedonian merchant. The route commenced at the bay of Issus, in Cilicia, the most easterly point of the Mediterranean. It then went across Syria, to the pass of the Euphrates, a little beyond Hierapolis, in 72° E. long., by Ptolemy's tables. It then crossed Mesopotamia to the Tigris. Thence it went through the country of the Garamæans of Assyria, (the district of Kourma,) and crossed the range of Zagros, at the pass of Karina, (Korrund.) After this, it went by Ecbatana, (Hamadan) through Media to the Caspiæ Portæ, (Pass of Sirdara); thence through Parthia to Hecatompylos, (Damghaun); thence to Hyrcania Civitas, (Jorjaun or Corcang); thence through Aria, (Heraut) turning south-east, and then north-east to Margiana Antiochia, (Marou Shah Jehan,) on the Morgus, or (Morgaub); thence east through Bactriana, to Bactra, (Balk); thence north to the ascent of the mountainous region of the Comedi, (Mountains of Badakshaun); thence through the mountainous region above mentioned, south-east to the valley of the Comedi; and thence north-east to the Stone Castle, which receives them ascending the valley, after an ascent of 50 schœnes. Here, according to Marinus, an angle is formed by the junction of two ranges of mountains—the intervening valley being that of the Comedi—namely, the Imaus, rising from the Palimbroti to the north, (or the *Imaus versus ad Arctos* of Ptolemy himself, or the mountains of the Comedi passed in the route), and the range running east from the Imaus, beyond which at the northern foot is the Stone Castle, or rather perhaps near the head of the pass through that range. This Stone Castle was the station of those merchants who traded directly with the Seres or Chinese. Thence, continues Marinus, was a journey of seven months to the capital of the Seres, or a distance of 36,200 stades, or 72° 200 stades, of 500 each, and as these were degrees of a great circle, the direct distance was equal to 4,344 geographical, or upwards of 5,000 English miles. But as it is plain on the most superficial inspection, that the route from Hecatompylos to the Stone Castle was very circuitous, as Ptolemy himself remarks, the latter geographer has diminished the distance to 24,000 stades, or 60 degrees, of 400 stades each, instead of 500 as Marinus had done; and from the Stone Castle to the capital of the Seres, he has reduced the distance to one-half the number of stades, for another reason, namely, that the merchants in their route to the capital of the Seres, from that point, were subjected to most violent storms. This reduced distance he has made 45¼° of 400 stades each, as before. So that the whole distance from the Pass of the Euphrates to the capital of the Seres, is stated by him to be 105¼°, which added to 72°, the longitude of that pass from the Fortunate Isles, makes the longitude of that capital 177° 15′, as stated in his tables; but 179° 5′ in the tables of longitudes and latitudes appended to his work. Yet he makes the longitude of the Stone Castle 135° east, which is only 42° west of the Serican capital, instead of 45° 15′, as he had stated in his first book, or 44° 5′ at the utmost, if that capital be placed 7 hours 55 minutes east of Alexandria, or 118° 45′ east of that city. Whether these inconsistent numbers are to be imputed to the errors of transcribers or to Ptolemy himself, is impossible to determine. It is certain that the distance of the Stone Castle from the capital of the Seres is merely computed; and as Ptolemy has founded his table of longitudes in Scythia and Serica entirely on computation, he might hesitate as to the precise degree of reduction to direct distance of the space traversed. But if he has reduced the space between these two points to

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[5] One principal error which caused such enormous longitudes in the ancient maps, was the practice of delineating them on a plain projection, the several divisions of which intersected each other at right angles, and formed exact squares. The basis of this projection was a stadium of 1-700th part of a degree of a great circle. The longitudinal measures, though fictitious, were assumed by Ptolemy as real distances, and accommodated to a map constructed on very different principles, whereas he ought to have divided those measures by 700, and not by 500 stadia; 73,000 stadia were reckoned from the Promontorium Sacrum, to the principal mouth of the Ganges, or 146°, but if these had been divided by 700 stadia, instead of 500 stadia, as Ptolemy has done, the distance would have been reduced to 104° 17′ 24″ or 41° 42′ less, which is just 6° 18 more than the truth.

18,100 stades, instead of 36,200, as stated by Marinus, he has at the same time increased the number of degrees, and of course the distance, by allowing 400 stades to a degree, instead of 500, the calculation of Marinus. Had he divided by 500, instead of 400, the distance would only have been 36 degrees and one-fifth, or 2,172 geographical miles, but this he has increased to 2,715 geographical, or 3,130 English miles; and if Pekin be identical with Sera Metropolis, it is still 43 degrees too far east of the Canaries, or 2,280 English miles in the parallel of 40° north latitude. But it will be asked, where is the *Pyrgos Lithinos, Turris Lapidea,* or Stone Castle of Marinus and Ptolemy. To this query no modern geographer has been yet able to give any thing like a satisfactory answer. It has been the very opprobrium of modern geography, and still remains as much unknown as the "*condita capita Nili,*" the hidden sources of the Nile. The reason is obvious, from the fact that we are yet as little acquainted with the route from Bactria to the confines of China as Marinus or Ptolemy were. Our maps of that intervening space are entirely grounded on report, and on the printed routes of Marco Polo and Father Goez, who travelled that way to Cambalu or Pekin, the former nigh six, and the latter more than two centuries ago. D'Anville, in his ancient geography, has endeavoured to identify the Stone Castle with the fortress of Aatas, in the district of Kokuns, situated on a steep rock, more than 7° to the north-west of Cashgar, and to the west of the Beloor Tag. Gosselin, in a memoir printed in the 49th volume of the *Mem. de l'Acad. des Inscrip.,* &c. 1803, could discover no signs of the Stone Castle in these Scythian solitudes, but imagined it to be "a mountain resembling a castle." Hager, in a dissertation on the Lithinos Pyrgos of Ptolemy, printed at Milan in 1816, and in a previous memoir on Chinese coins, printed in 1805, maintains, that the modern Tashkunt, to the north of the Jaxartes, is the Stone Castle of Ptolemy, and endeavours to prove it from the meaning of the word, which in Turkish (the spoken language of Bucharia) means the Stone Castle, and from the known fact, that Tashkunt has been from immemorial time a caravan route from Bucharia to China; and finally, from the striking coincidence between the latitude of the Stone Castle in Ptolemy's tables and that of Tashkunt, both being in lat. 43° north. Malte Brun, in the first part of his geography, adopted the opinion of Hager, that Tashkunt is the Stone Castle of Ptolemy, and quotes his treatise on Chinese coins in proof of it. Mr Murray, in opposition to D'Anville, Gosselin, Pinkerton, Robertson, and Malte Brun, maintains that Serica is China, and that the Serarum Metropolis is Tsinan-fu in Shantonga, and that the route from Bactria to the Seres went north-east, up the vale of the Oxus. That none of the positions of the Stone Castle, assigned by the geographers above mentioned, is at all satisfactory, I have endeavoured to show at considerable length in my supplement to Rollin's Dissertation on the geography of the ancients. But I assent so far to the opinion of Mr Murray, in thinking, that after leaving Bactria the route to the Seres ascended the Beloor Taugh, or south-west side of the Comedian mountains; went up the valley of the Oxus to its source, as laid down in Elphinstone's map; and then crossing the dividing line to the north-east, arrived at the high elevated upland of Pamer, as laid down in Strahlenberg, which upland, or Oropedion, I take to be the valley of the Comedi, so called because it lay between the two converging ranges of the Beloor-Taugh and the Mooz-Taugh, which, by their junction at the north-west, form the angles described by Ptolemy, (*a qua montes, qui ad ortum tendunt,*) namely, the Mooz-

Taugh (*monti conjungit Imao qui a Palembrotis insurgit ad Arctos,*) namely, the Beloor-Taugh coming from the south. Crossing this upland, to the north-east, this route joins another coming north from the range which parts the sources of the river of Kashkhaur from this same extended upland, at the lake of Surrikol, (the lake, perhaps, seen by Marco Polo in his route.) Beyond this, is the Pass of Chiltung, across the Mooz-Taugh, into the country of Cashgar, beyond the Imaus. Near this I would place the Stone Castle, where the merchants, according to Ptolemy, halted, previous to their crossing the Imaus into Scythia and Serica. As this place is the junction of two caravan routes, the one from Bactria, mentioned above, and the other from India on the south, it may well be called "*receptaculum eorum qui ad Seras negotii causa proficiscuntur, penes Montem Imaum.*" What adds more to this conjecture is, that a station near this place is called Ak-Tash, or the White Stone, or probably the castle or building of white stone, and on the other side of the Imaus, near the mouths of the pass, is another station marked in the map of Elphinstone, simply called *Tash*, or the stone.

The extent of the habitable globe, according to Ptolemy, was the following, allowing 500 stades to a degree of a great circle. From north to south, or from the isle of Thule, in 63° N. lat., to the southern limit of Agisymba, in Africa, he reckons 40,000 stades, or 80°, or 4,800 geographical miles. In the most southern parallel, or that of Agisymba, the length is 86,333 stades, or 172° 40′ or 10,350 geographical miles; but more than one-half of this was occupied by the Indian ocean, the Erythraean sea, and the *Sinus Barbaricus.* Over the equinoctial arch, the length of the known world is 90,000 stades, from the Fortunate islands to the *Sinarum Metropolis,* through the parallel of Alexandria, or 180°, or 10,800 geographical miles. In the parallel of Syene, 23° 30′, the length of the known world is 82,336 stades, or 164° 36′ 9,880 geographical miles. In the parallel of Rhodes, the length of the known world is 72,812 stades, or 178° 38′, or 8,738 geographical miles, The circumference of the globe was 180,000 stades, or 360° of 500 stades each, equal to 21,600 geographical miles. Europe, Asia, and Africa, are described by Ptolemy in 26 tables, the 10 first of which include Europe, the 4 following Africa, and the 12 last Asia. All the districts of the known world he enumerates at 94, 48 of which belong to Asia.

General review.] Marcian of Heraclea, and Agathemarus, added nothing to what were known in geographical science by Ptolemy; as Malte Brun remarks, the geography of Ptolemy and the description of Greece by Pausanias, are the last works in which the light of antiquity shines on that science. We may therefore here conclude our views of the geographical knowledge of the ancients. We have seen that beyond the bounds of the Roman empire, they knew little. The northern, north-western, north-eastern, and most eastern parts of Asia, were almost utterly unknown to them. Their knowledge of the Persian empire was superficial and inaccurate. The geographical knowledge may be said to have terminated at the Tigris. In Europe nothing was known beyond 63° of north latitude. With Hindostan they were better acquainted than with Persia. Beyond the Ganges, their knowledge was obscure, imperfect, and inaccurate, so that no geographer, however well skilled in Oriental lore, can make any thing of it. Their knowledge of China was in the same state; and the route of Marinus, fortunately preserved in Ptolemy's first book, meagre as it undoubtedly is, is the only relic left remaining of the ancient geography of Asia beyond the Imaus. Of Africa only, the ancients possessed more information than the moderns, for its interior was pervaded beyond the Great Atlas, to the vicinity of the Niger. The reason is obvious. The moderns make discoveries by sea, whilst the ancients made theirs by land-routes. It is upon astronomical science that all geography depends for accuracy and precision, and it is by astronomical observations alone, that we are enabled to fix the positions of cities and the boundaries of regions. Where these are wanting, no dependence can be placed on lists of longitudes and latitudes such as are found in Ptolemy, who fixed them, with a very few exceptions, by routes and bearings.

CHAPTER II.

GEOGRAPHY OF THE MIDDLE AGES.

Roman Itineraries.] Several geographical treatises and itineraries[1] have been handed down to us from the later ages of the Roman empire, but none of them are of much importance in a scientific point of view. Of the itineraries the Romans had two kinds, the *Picta* and *Annotata*, or the drawn and written: the latter contained the names of the stations and chief places, with their distances from one another. In the *Itineraria picta* all the great roads were drawn, and the names, extent, population, and physical features of the different provinces were added. Of the former kind of itinerary, the most remarkable is that which goes under the names of *Antoninus* and *Æthicus*, or, as Bartheus found in his copy, *Antoninus Æthicus*, the age of which it is difficult precisely to determine, although it has been rendered very probable that it was written in the time of Hadrian, and by one of his travelling attendants.[2] Another ancient itinerary is that of Jerusalem, which points out, in great detail, the whole route from Bordeaux to that city.

Tabulæ Peutingerianæ.] Of the painted itineraries, a very fine specimen is still preserved in the imperial library of Vienna, and has been en-

[1] From *Itinerarium*, a day's march.

[2] "It is an absolute certainty"—says Mr Reynolds in his edition of that part of the itinerary which relates to Britain—"that Antoninus lived in the reign of that emperor, because he was his adopted son and successor in the empire. And as he is, by his adoption, proved to have been one of his most intimate friends, so we may suppose he would not be often absent from his locomotive court. Nor is there any thing related of this illustrious Roman which renders the supposition of his being the author of such a work either improbable or impossible. To be an author was not esteemed a degradation of the high rank of an emperor of the Roman world. A work of his immediate successor, Marcus Aurelius's Meditations, has reached our times, as well as the Itinerary. But Antoninus was nothing more than a Roman senator till 50 years of age, nor had he any reason to expect to be honoured with the imperial throne till the space of little more than one year of the death of his predecessor. In his private station, therefore, he had full time enough for the construction of this work, which might form a very agreeable amusement of his leisure hours, while attending the peregrinations of his royal master. This was an opportunity also uncommonly favourable for collecting materials for a work of this kind. It is not indeed any where positively recorded, that Antoninus did attend Hadrian in his travels, but it is a natural inference, from his being one of the emperor's particular friends. And though he might not be always with the imperial traveller, yet when he had once formed a design of such a work, it would be an easy matter for him to employ some other attendant to collect information for him during his absence. But it may be objected, that if Antoninus Pius was the author of the Itinerary, he surely would have added some towns to it, when, after the death of Hadrian, Lollius Urbicus had built the new wall in Scotland, and his other lieutenants had recovered Dacia, and the other countries beyond the Euphrates. The answer is, that it is not absurd to suppose that he had fully completed his design in the lifetime of Hadrian, before those changes had taken place, and that the progress of the work ceased with the singular cause which had given rise to it."

graved and published under the name of the *Tabula Peutingeriana.* To this composition some have assigned so early a date as the year 230 A. D. The copy which at present exists is thought to have been executed in the 13th century: it owes its name to Conrad Peutinger, a citizen of Augsburg, to whom it formerly belonged, and by whom it was illustrated in a learned commentary. The commencement of the Tabula, containing Portugal, Spain, and the western part of Africa, has been lost; but it contains Asia and the East, as far as the knowledge of the Romans extended in that quarter.

Cosmas Indicopleustes.] In the beginning of the 6th century, an Egyptian monk of the name of Cosmas wrote a topography of the Christian world, principally with a view to refute the impious doctrines—as he deemed them—of those who taught that the earth was a globe. His work has procured him the surname of *Indicopleustes,* or 'the Voyager in India,' though it is doubted whether its author ever visited that country. From the details of the Egyptian monk, it may be collected that in his time these voyages of the Romans, or of the Greek merchants, extended beyond the coast of Malabar.[3]

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[3] "Ceylon," says a writer repeatedly quoted by us in the course of this article, "was called by the Indians *Sicladiba*, or the island of Siela,—a close approach to the name which it bears at the present day. India," he says, "is divided from Persia by the river Indus or Phison." "This latter name he may have borrowed from the Arabians, who apply it to rivers in general; but it is originally Indian, and the same as *Phasis*, or *Fash*, a 'river,' which we find occurring in Ceylon, in Colchis, in Armenia, and in the country of the Gihon or Oxus. The river Indus, it may be proper to observe, is called by the Hindoos the *Sint*, which also signifies the 'river;' *Sindia*, the name of the country round the mouths of the Sint or Indus, signifies, in like manner, the Delta, or 'river country.' The accidental resemblance between the name of the river Sint and that of the Hindoos led to a corruption of the former name, which has occasionally given birth to errors in historical investigations. The Hindoos or Indoos derive their national designation from the word *indoo*, the 'moon,' as if they were descended from that heavenly body: however singular such a designation as that of the 'people of the moon' may seem in the present age, it was anciently assumed, not only by the Hindoos, but by all the principal nations of central Asia. The Pandus (the Pandions of the Roman writers) and Chandras, who were amongst the most ancient and distinguished of the Indian dynasties, were respectively, as their names imply, the children of the sun and moon. Cosmas observes that Hindostan was peopled by two races; that of the north being comparatively fair-complexioned: but instead of calling the darker race Ethiopians, as was generally done, he gives to the fair-complexioned and ruling nation in the north the name of *Hunni*, an expression for which it is not easy to find a satisfactory explanation. Among other proofs which he furnishes of an extended navigation in the East, is his mention of the Tsinitzæ or Chinese, whose country, at the extremity of the East, was as far by sea from Ceylon as this island was from Egypt."—*Hist. of M. and I. Discovery*, i. 156. On this extract we beg to offer a few remarks. Cosmas manifestly borrowed the names Phison and Gihon from the account of Moses, and applied them in his absurd geography to the Indus and Nile. In the district of the Upper Oxus, there is a river, no doubt, called *Vash;* but we see no reason to conclude that it is a Sanscrit word. The Sanscrit name of the Hyphasis is *Beypasha*, or *Bipasa*, so that *Pasha* or *Pasa* is the name, with the prefix *bi* or *bey;* consequently the Hebrew Phison of Moses is of Indian original in this way, and we must also derive our Hebrew proper names from Indian or Sanscrit roots! That the Indians call the Indus *Sint*, in place of *Sind*, is what we never knew before: it is very astonishing that the curious and inquisitive Greeks did not find this out. Sind is invariably used by the ancients when speaking of the Indus and the adjacent region One is apt to ask, if Sint, and not Sind, be the true name, why was the Delta called *Sindia* and not *Sintia?* That, in the mythological history of India, different dynasties might assume the title of Descendants of the Sun and Moon, as claiming somewhat of a divine descent—like the Persian princes, who called themselves the descended of the gods—we do not doubt; but that all the Hindoos believed themselves to be such, or called themselves such, is an inference not deducible from the premises; and that all the nations of Central Asia assumed the title of Descendants of the Moon, is a monstrous assumption. Respecting the *Hunni* of Cosmas, why may they not have been a branch of the White Huns of Procopius, who in the 5th century conquered the region of the Oxus? On so dark a subject we ourselves affirm nothing: but the elder Des Guignes has conducted into North Western India the Hunni of Cosmas.

Arabian Geographers.] The Arabian geographers followed the system of Ptolemy, both in astronomy and geography. They have no doubt made us acquainted, in some measure, with the history and geography of the regions east of the Tigris, and south of the Jaxartes, and have furnished us with some caravan-routes through them, and from thence to China, but their astronomical observations are not very numerous, and are by no means entitled to the praise of accuracy, nor deserve that confidence which has been placed in them by modern geographers, as De Lisle, Strahlenberg, D'Anville, and Rennel. Their geographical descriptions are chiefly confined to the regions where Mahommedanism was established and professed. The great Abou Abdallah-al-Mamoun, the son of Haroun-al-Raschid, who makes, in conjunction with his vizier Giafar, so great a figure in the Arabian Nights' Entertainments, was the first who really patronised astronomy and geography, and sought to imbue his subjects with a taste for the science and learning of the ancients. He collected the volumes of Grecian science, by means of his ambassadors at Constantinople, and his agents in Armenia, Syria, and Egypt, and commanded them to be translated by skilful interpreters into the Arabic language. The works of Aristotle and Plato, of Euclid and Apollonius, of Ptolemy, Hippocrates, and Galen, were read and studied by the Arabians in these versions, and astronomy was eagerly cultivated; but unhappily, that sublime science became debased by its alliance with astrology, amongst their hands. Like all the other oriental nations who had preceded them, the Arabs applied astronomy to divination, and instead of improving the astronomy of Ptolemy, they never advanced one step towards the discovery of the solar system. Their astronomical tables, constructed at Bagdad, Samarcand, Maragha, and Spain, only corrected some minute errors in those of Ptolemy, without venturing to renounce the leading errors of his system. But by the command of Al-Mamoun, a celestial arc was twice measured,—one in the plain of Senjar, another in that of Cufa, in order to ascertain a degree of the meridian. The mathematicians divided themselves into two parties, one of which went northward, and the other southward, till the former perceived the polar star to be elevated one degree above its altitude in Senjar, and the latter found it as much depressed. Measuring the intermediate space, they ascertained the degree to consist of 200,000 royal, or Hashemite cubits,—each consisting of 27 digits, the ancient cubit of Memphis—or 66⅔ Arabic miles, nearly equalling 69 English miles, thus making the circumference of the earth about 24,840 English miles. After this encouragement given publicly by the khalif to astronomical geography, it became fashionable amongst the Arabs, though at the same time the conduct of Al-Mamoun was condemned by the stern votaries of the Mussulmaun faith, and the Mohammedan doctors.

Mohammed Ebn Ketir al Fargani, who was contemporary with Al-Mamoun, published an astronomical treatise entitled *Al-fusoul-attalaten,* or 'the Thirty Chapters,' wherein both astronomy and geography are illustrated. This treatise was published with a Latin version, by the celebrated Golius, at Amsterdam, in 1669, and entitled 'Elements of Astronomy,' accompanied with elaborate notes. *Abou Ishak* published a treatise on geography, in the commencement of the 10th century.

Massoudi.] Massoudi, another Arabian geographer, wrote, in the year 947, a general history under the fantastical title of 'The Golden Meadow, and the Mine of Precious Stones,' in which he gives an account of the most celebrated kingdoms in Europe, Asia, and Africa. He commences with comparing the earth to a bird, of which Mecca and Medina form the head, Persia and India the right wing, the land of Gog the left wing, and Africa the tail. He supposes the existence of an earth anterior to this, and situated elsewhere; he believes also that the earth which we now inhabit has been successively covered with waters, which have passed off sometimes on the one side, sometimes on the other. According to him, a great commercial intercourse was carried on between Bassora and Canfu (Canton), in China. He also describes a route to China by land, which seems to have been through Khorasan, Tobbot, and Ilestan; but we are unable to identify the last of these regions, unless it be the tract watered by the Ili, on the north frontier of Little Bucharia, or probably the province of Ilak, in Turkestaun, to the north of the Jaxartes or Sihoon, watered by the river of Tonkat.

Ebn Hawkal.] The next Arabian geographer is Ebn Hawkal, a traveller of the 10th century, whose oriental geography has been translated by Sir William Ouseley. His work commences with a general description of the earth and its divisions, or rather of those climates and regions comprised within the circle of Mohammedism. The sea of Roum, or the Mediterranean, and the remarkable places on its shores, and in its vicinity, are described, as well as their distances from each other, by rates of eastern mensuration; that is, by merhileh, or stages, consisting, according to Edrisi, of 30 miles, and by parasangs, or farsangs, of 30 stadia. These measures are, however, allowed to be of very uncertain extent, and to vary exceedingly in different eastern authors who have treated of geographical matters. Abyssinia, Nubia, and other parts of Africa, occupy the next division; and the commerce, natural productions, and manners of the inhabitants of each region, are slightly touched upon as he proceeds. Andalus, or Spain, early conquered by the Ommiades, is next described, and contains some curious particulars. A separate division is appropriated to Egypt, that splendid jewel in the tiara of the kalifs. Cairo was not at this time built; Fostat is mentioned as the existing capital. The marble palaces, and the lofty watch-tower of Alexandria, are noticed; but not the pillar called Pompey's. Sham, or Syria, is treated of under the next ample division; and of its proudest boasts, Damascus and Balbek, as they appeared 800 years ago, the reader may not be displeased with the summary account annexed.[4] Jezireh, or Mesopotamia, next engages our attention, and is described with equal minuteness of local circumstances; but on the vast empire of Iran, and its provinces, the geographer seems to have bestowed his utmost labour, and to have exhausted all the stores of his erudition. We are next transported to Sind, or the regions lying on, and near the mouth of, the Indus; these are mentioned as the extreme boundary of the Mohammedan conquests in this direction. Armenia, and the districts near the Caspian sea, as also that sea itself, known to the Orientals by the name of the sea of Khosr, now, for many pages, solicit our attention, interspersed with various pleasing accounts of the natural and civil history, and the antiquities of that remote country; but they are too desultory and detached to be extracted; and will be perused with better effect in the volume itself. Our final excursion is to the neighbouring region of Maweralnahr, or Transoxiana. Persepolis still existed in the time of Ebn Hawkal, under the name of *Istakar*, and was, though prodigiously declined, a mile in length; so that we need not wonder if Ptolemy placed it in his tables as a city of note. Nisibis, in Mesopotamia, was still a great city, enjoying perpetual verdure and salubrious waters. Siraf, on the Persian gulf, was then a large and commercial city, inhabited by wealthy merchants, some of whom, enriched by intercourse with Canton in China, expended no less than 30,000 dinars in the erection of their houses. Above 500,000 families, nomadic Curds, possessed the mountains and plains of Fars. In Ebn Hawkal's description of places, the pride and invective of the Mohammedan bigot frequently break forth; and, what is extremely unfortunate for the cause of Asiatic geography, he slightly passes over, or wholly neglects, the description of many large provinces and kingdoms that lay beyond the verge of the Moslem conquests at the period when he wrote. Thus, although of Sind and its capital, Multan, we find rather an ample description—that region of Asia having been conquered, according to Abulfeda, early in the 8th century, by Mahommed Casim, one of the generals of the kalif Valid—yet of Hind (Hindostan), which was not conquered by the sultans of Gazna till the beginning of the 11th century, we find scarcely any notice taken; in this, as in many other instances, the author exclaiming, "the inhabitants are kafers (infidels) and idolaters,—a minute description of those places would therefore be unnecessary and unprofitable." As for the interior of Africa possessed by the negroes, Ethiopians, and others, he declines describing it for the following curious reason—a reason which would restrict geography to very narrow limits indeed: "As for these people, I make but slight mention of them, because, naturally loving wisdom, ingenuity, religion, justice, regular government, how could I notice such people as these, or exalt them by inserting an account of their countries!"

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[4] "Demeshk (Damascus) is a chief city, the right hand of the cities of Syria. It has ample territories among the mountains, and is well watered by streams which flow around. The land about it produces trees, and is well cultivated by husbandmen. This tract is called Ghouteh. It extends about one merhileh by two. There is not in all Syria a more delightful place. There is a bridge in the midst of the city of Demeshk, by which a horseman may pass over the water, which goes on to the villages of Ghouteh, and runs amongst their inns, and hot-baths, and shops. Here is one of the largest mosques in all the land of the Mussulmans, part of which was built in ancient times by the Sabians. Then it fell into the possession of the Greeks, and became a place of religious worship to them. After that it fell into the hands of the Jews, and of certain princes who adored idols; and at that time they put to death Yahiah, the son of Zachariah, to whom be peace! and fixed his head upon a pole, before the gate of this temple, at the place which they call Bab Jeroud (probably Jews'-gate). It then passed into the hands of the Christians, who performed in it, likewise, their religious ceremonies, until, at length, it came into the hands of the true believers (the Mussulmans), to whom it serves as a mosque. At the same spot where the head of Yahia Ben Zachariah had been fixed, the head of Hosein, the son of Ali, to whom be peace! was also exposed. Walid ben Abd-al-Molk, in his time, caused this building to be repaired, and beautified with pavements of marble, and also pillars of variegated marble, the tops of which were ornamented with gold, and studded with precious stones, and all the cieling he caused to be covered with gold; and it is said that he expended the

Al-Scherif-al-Sachali.] In the commencement of the 12th century, Al-Scherif-al-Sachali composed a treatise of ancient and modern geography, entitled *Nozhat-al-Absar,* 'the Re-erection of places.' This work was dedicated to Roger, king of Sicily, who ordered a Latin version of it to be made, and who preferred it to all other works on the same subject.

Scherif-al-Edrisi.] One of the most eminent of the Arabian geogra-

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revenues of all Syria upon this work. Beyond the borders of Demeshk is Baalbek, situated on an eminence. Here are the gates of palaces, sculptured in marble; and lofty columns, also of marble. In the whole region of Syria there is not a more stupendous or considerable edifice than this."

phers is Edrisi, or Eldrisi, commonly known by the name of the Nubian geographer, an individual every circumstance of whose life is a subject of controversy to the learned. He wrote his African geography in the year of the Hejira 550, corresponding with the year 1099 A. D.; soon after which he wrote a book on the pyramids of Egypt. He has entitled the former work, "The going about of a curious man to explore all the wonders of the world;" and many a wonder he seems to have discovered. He represents the Turks as a race of men having great heads, broad faces, large bushy hair, and flaming eyes. He talks of a nation of pigmies, only three spans high, and of a great gate of iron 50 cubits high, with an iron bulwark rising almost beyond the reach of vision. He confounds all the Tartar tribes under the name of Turks, and makes *Khakan* the name of every chief city possessed by them. He tells us that the land of Yajuj and Majuj is full of cities, and exceedingly populous; yet he says, in another place, that beyond the mountain *Kokaya*—which he makes to surround that region on the S.W. and S.—are found no dwellings, not any living creature, by reason of the intense cold. "In drawing the general outlines of cosmography, Edrisi describes the earth as globular, the regularity of that figure being interrupted only by the variety of mountains and valleys on its surface. He adheres to the doctrine of those ancient schools which supposed an uninhabited torrid zone; but as his knowledge extended to populous countries south of the tropic, he placed the commencement of this zone, with very little propriety, at the equinoctial line. 'Beyond this,' he says, 'there are neither plants nor animals, all being uninhabitable on account of the heat.' Again, the habitable world extends, according to him, only to the 64th degree of N. lat., beyond which all is frozen with ice and perpetual winter. The circumference of the earth he estimates at 11,000 leagues, and he refers also to a measurement made by Hermes, which found it to be 12,000. He divides the whole according to the established system into 360 degrees; observing, however, that in consequence of the impossibility of passing the equinoctial line, the known world consists only of one hemisphere; of this one-half is land, and the other sea, which last consists chiefly of the great ambient sea, surrounding the earth in a continued circuit like a zone, and in which the earth 'floats like an egg in a basin of water.' The only portion of it concerning which any thing was known was the Atlantic ocean, called 'the Sea of Darkness.' That part which rolled along the north-eastern extremity of Asia was named 'the Sea of Pitchy Darkness,' the gloom of the climate here increasing the obscurity which the Arabians thought to be connected with the ocean. Besides the great sea or ocean, Edrisi reckons seven smaller ones, viz. the Red sea or Arabian gulf, the Green sea or Persian gulf, the sea of Damascus or the Mediterranean, the sea of the Venetians or the Adriatic, the sea of Pontus or the Black sea, and the sea of Georgian or Dailem, by which he meant the Caspian." But notwithstanding of the many errors which pervade his geography of the African continent, it must be admitted that he has communicated more knowledge of its interior than all who had preceded him. He places the source of the Nile—as Ptolemy had done before him—in the Mountains of the Moon, in 16° S. lat., or more than 20° south of its real sources, and carries them through three lakes successively, to the equator. From the last of these he derives the Niger, or Nile of the Negroes, which runs N.W., and the Egyptian Nile running N.E. He describes the Caspian as an inland sea, under the name of the *Sea of Khozar*, and mentions the lake of Aral, under the appellation of the *Sea of Khowarasm.* He describes the ocean as open and navigable round, by the north, from China to Norway and Great Britain.

Nasroddin-al-Toosi.] Nasroddin-al-Toosi, a native of Toos in Khorasan, a little to the north of Meschid, flourished in the year 1260, in the reign of Hulacu the Tartar, who was his great patron. This personage was a celebrated mathematician and astronomer. He travelled through many provinces of Asia for geographical information; and his knowledge of such countries as he did not visit in person, he derived from the most approved Arabian geographers. From his own astronomical observations, and the information of others, he constructed astronomical tables, from which one of latitudes and longitudes was extracted and published by Greaves, in 1652. In these, the longitude is computed from the Fortunate islands. But his longitudes are generally erroneous, and in many instances his latitudes. His geographical table is arranged in five columns. The first contains the names of kingdoms and provinces; the second, those of cities and towns of note; the third and fourth contain the latitudes and longitudes; and the fifth contains the climates. The longitudes and latitudes of 248 cities—all of which, except 18, are Asiatic—are ascertained. Under the patronage of Hulacu, a royal observatory was erected at Maragha, in Aderbijan, on the eastern side of the lake of Oormeeah, and Nasroddin, having been appointed chief-astronomer, carried on a series of astronomical observations at that place for two years.

Abulfeda.] The most eminent of all the Arabian geographers is the celebrated Abulfeda Ismail, prince of Hama in Syria, who died in 1345 A. D. His great geographical work is entitled *Takwim-al-Buladin*, or 'the Description of Countries.' He informs us that he composed this treatise to supply the deficiences and correct the errors of his predecessors, who had described only the countries of the Mahommedans, as if other regions were not worth describing, because belonging to princes and people who do not profess the religion of Mohammed. "For instance," continues he, "the accounts of China, received from travellers and navigators, are either defective or false. Those of India doubtful, confused, or fabulous. Almost all the kingdoms from the Thracian Bosphorus to the Atlantic ocean are almost unknown, and respecting interior Africa, as Negroland, Nubia, Abyssinia, Tocrur, Zayla, &c., I have been able to collect nothing of importance. The same is the case with the north of Asia and Europe." After having prefaced his work with this general and just censure on preceding oriental geographers, he remarks, that, "notwithstanding this deficiency of information, it is better that one know a part than be ignorant of all, and not abandon the study of a thing entirely, because one does not know it perfectly." In his introduction to the work, he enters on the subject of mathematical geography, and then describes the world in general, and its most celebrated mountains, rivers, and seas. He has given an account of 623 countries, besides those marked in his tables, in the order of climates, as laid down by Ptolemy. In his tables of longitude and latitude, he computes the former from Ceuta on the African coast, opposite Gibraltar, at the foot of Mount Abyla, one of the Pillars of Hercules, in preference to the Fortunate islands, the first meridian of the Greeks, Latins, and the greater part of the Arabian geographers. In adopting the system of climates, Abulfeda used a mode different from that in use among Greek, Arabian, and Persian geographers, who divided the latitude of the known globe into 7 climates. In addition to this division, he added 28 artificial climates, denoting thereby the countries which he described. Abulfeda is to be viewed chiefly in the light of an industrious compiler, who collected what he has given from the best authorities to which he had access. Speaking of the Nile, he says that "it springs from those deserts which are south of the equator; wherefore it is difficult for us to investigate its sources, of which, as of the whole river, we are indebted to the Greeks for all our knowledge,"—a very candid confession of oriental ignorance. He correctly describes Africa as everywhere surrounded by the ocean, except at the isthmus of Suez; but, like Ptolemy, he curtails it of at least 10° of its longitude westward. Of Siberia he knew nothing; and his knowledge of China is not so full as might have been expected, considering the intercourse which the Arabians held with that extensive commercial region. Of Khowarasm and Mawalnahar, Abulfeda has given a full and circumstantial description, as also of Arabia. His geography of these extensive and interesting regions has been translated by Greaves, and inserted by Hudson in the 4th vol. of his Minor Geographers. His geographical tables of Syria were translated into Latin by Kochler and Reiske, and published in 1766, with notes and illustrations, along with his Introduction. His description of Egypt was translated into Latin, with notes, &c. by the late celebrated Michaelis of Gottingen, in 1776, and large excerpts from his geography have been made by the learned Schultens the elder, and appended to his life of Saladin, translated from the Arabic, in order to illustrate the marches and conquests of that sultan so celebrated in the wars of the Crusade. The geography of Abulfeda was also translated into the Turkish language, by Sipahi Zade, and dedicated to Sultan Morad.

Ibn Batuta.] Among oriental travels, those of the Sheikh Ibn Batuta hold a foremost rank, and embrace all the countries which may be considered as peculiarly belonging to Arabian geography. He left his native city Tangiers for the purpose of performing the pilgrimage, in the 75th year of the Hegira (A. D. 1324-5). After travelling some time through the cities of the Delta, he at length arrived at Cairo, whence he proceeded through Egypt to the borders of Nubia. "The Nile," he says, "which runs through this country, excels, by much all other rivers in the sweetness of its taste, the length of its course, and the extent of the benefits it confers. It is one of the five great rivers of the world, which are the Nile itself, the Euphrates, the Tigris, the Sihun, and the Jaihun, or Gihon. Five other rivers also may be compared with these, namely, the river of Sindia (the Indus), which is called the Penj-ab, or five waters; the river of India, which is called the Gung (or Ganges), to which the Indians perform their pilgrimages, and into which they throw the ashes of their dead when burnt: they say it descends from Paradise; also the river Jun (or Jumna), the river Athil (Volga), in the deserts of Kipjack, and the river Saro in Tartary, upon the bank of which is the city of Khan Balikh (Shangtoo), and which flows from that place to El Kansa, and thence to the city of Zaitun in China. The course of the Nile, moreover, is from south to north, contrary to that of all other rivers."—Returning down the Nile, he proceeded to Tiberias, and thence to Mount Libanus, which he describes as the most fruitful mountain in the world, abounding in springs of water and leafy shades, and covered with the cells of hermits. Passing through Arabia, our traveller crossed to Hormuz or Ormuz, a city on the sea-shore, where he saw the strangest sight he had ever beheld, namely, "the head of a fish that might be compared to a hill, with eyes like two doors, so that people could go in at one eye and out at the other!" Leaving Ormuz, Ibn Batuta passed through the Persian province of Fars, to Bahrein, and shortly after set out on a second pilgrimage to Mecca, whence he again proceeded to Cairo, and thence to Anatolia. "I went," he says, "to the city of Brusa, which is a large place, and governed by Ikhtiyar Oddin Urkhan Beg, son of Othman Juk. This is one of the greatest, richest, and most extensive in rule, and commanding the greatest army of all the Turkoman kings: his practice is to be constantly visiting his fortresses and districts, and to be inquiring into their circumstances. It is said that he never remains a month in any one place." We next find Batuta visiting the Tatar camp of Mohammed Uzbek Khan. While there, he procured a guide to the city of Bulgar, at a distance of ten days' journey. "In Bulgar," he says, "I was told of the land of darkness, and certainly had a great desire to go to it from that place. The distance was a journey of forty days. I was diverted, therefore, from the undertaking, both on account of its great danger and the little good to be derived from it. I was told that there was no travelling thither except upon little sledges, which are drawn by large dogs; and that during the whole of the journey the roads are covered with ice, upon which neither the feet of man nor the hoofs of beasts can take any hold. These dogs, however, have nails by which their feet take firm hold on the ice. No one enters these parts except powerful merchants, each of whom has, perhaps, a hundred such sledges as these, which they load with provisions, drinks, and wood; for neither trees, stones, nor horses, are met with there. The guide in this country is the dog, who has gone the journey several times, the price of which will amount to about a thousand dinars. The sledge is harnessed to his neck, and with him three other dogs are joined, he, however, being the leader. The others then follow him with the sledge, and when he stops they stop. The master never strikes or reprimands this dog; and when he proceeds to take his meals the dogs are fed first; for if this were not done they would become enraged, and perhaps run away, and leave their master to perish. When the travellers have completed their forty days or stages through this desert, they arrive at the land of darkness, and each man leaving what he has brought with him, goes back to his appointed station. On the morrow they return to look for their goods, and find, instead of them, sable, ermine, and the fur of the sinjab. If, then, the merchant likes what he finds, he takes it away; if not, he leaves it, and more is added to it. Upon some occasions, however, these people will take back their own goods, and leave those of the merchants. In this way is their buying and selling carried on; for the merchants know not whether it is with mankind or demons that they have to do, not a soul being seen during the transaction. It is one of the properties of these furs that no vermin ever enters them." He returned from this tour to the camp of the sultan, whom he accompanied to Astrachan, situated on the Athil, or Volga, one of the greatest rivers of the world. Here the sultan always resided during the very cold weather; and when the Volga and adjoining rivers were frozen over, the Tatars spread some thousand bundles of hay upon the ice, and on this they travelled. Batuta was fortunate enough to be permitted to accompany one of the wives of the Tatar khan, who was a daughter of the emperor of Constantinople, on a visit to her father. "On the fourth day after our arrival," he says, "I was introduced to the sultan Takfur, son of George king of Constantinople. His father George was still living, but had retired from the world, become a monk, and given up the kingdom to his son. When I arrived at the fifth gate of the palace, which was guarded by soldiers, I was searched, lest I should carry any weapon with me; which is submitted to by every citizen as well as stranger, who wishes to be introduced to the king. The same is observed by the emperors of India. I was introduced, therefore, and did homage. The emperor was sitting upon his throne, with his queen and daughter, our mistress; her brothers were seated beneath the throne. I was kindly received, and asked as to my circumstances and arrival; also about Jerusalem, the temple of the resurrection, the cradle of Jesus, Bethlehem, and the city of Abraham (or Hebron), then of Damascus, Egypt, Irak, and the country of Room; to all of which I gave suitable replies. A Jew was our interpreter. The king was much surprised at my tale [relating to the extent of his travels perhaps], and said to his sons, 'Let this man be treated honourably, and give him a letter of safe conduct.' He then put a dress of honour on me, and ordered a saddled horse to be given me, with one of his own umbrellas, which with them is a mark of protection. I then requested that he would appoint some one to ride with me through the different quarters of the city, that I might see them. He made the appointment accordingly, and I rode about with the officer for some days, witnessing the wonders of the place. Its largest church is that of Sancta Sophia: I saw its outside only. Its interior I could not see, because just within the door there was a cross which every one who entered was obliged to worship. It is said that this church is one of the foundations of Asaf, the son of Barachias, and nephew of Solomon. The churches, monasteries, and other places of worship within the city, are innumerable." After a stay of one month and six days in Constantinople, Ibn Batuta returned to Astrachan, and thence proceeded to Chorasm, which he describes as the most populous city in the possession of the Turks. He then wandered through Khorasan, and the mountains of Kuhistan, to Barwan, "in the road to which is a high mountain covered with snow, called Hindoo Cush, that is, the Hindoo slayer, because most of the slaves brought thither from India die from the intenseness of the cold." Candahar and Cabul were both in a ruined state when visited by our traveller. Delhi he describes as the greatest city of Islamism in the East. Having got into the good graces of the emperor, he was appointed to various offices about the court, and at last sent on an embassy to China. Having arrived at Calicut, a great port frequented by wealthy merchants from all parts, Batuta waited three months for the season to set sail for China. He gives an accurate description of the great Chinese ships called junks:—"The sails of these vessels are made of cane reeds, woven together like a mat; which, when they put into port, they leave standing in the wind. In some of these vessels there will be a thousand men, six hundred of them sailors, and the remainder soldiers. Each of the larger vessels is followed by three others of inferior sizes. These vessels are no where built except in the farthest ports of China. They are rowed with large oars, which may be compared to great masts, over some of which five-and-twenty men will be stationed, who work standing. The commander of each vessel is a great emir. In the large ships, too, they sow garden herbs and ginger, which they cultivate in cisterns ranged along the side. In these also are houses constructed of wood, in which the higher officers reside with their wives: every vessel is, therefore, like an independent city. Of such ships as these Chinese individuals will sometimes have large numbers, and, generally speaking, the Chinese are the richest people in the world." The time of the voyage at length arrived. There were 13 large junks in the port, and one of these was appointed for the reception of the embassage. The imperial presents were already embarked; and Batuta, who preferred the accommodation of one of the smaller vessels, had sent all his property on board, remaining himself on shore to attend prayers in the mosque. The fleet was to set sail on the morrow; but during the night a violent hurricane came on, the sea rose and destroyed most of the great vessels in the harbour, among others, the junk containing the treasure: the crew and imperial officers all perished, and the wealth was lost. The ship in which Batuta had embarked his effects had succeeded in getting off to sea. Nothing remained to him now but his prostration carpet and ten dinars which were given him by some holy men.

After this misfortune our traveller was afraid to return to the court of Delhi; he sought, therefore, and obtained the protection of the king of Hinaur, with whom he remained for a little time, and then proceeded to the Maldive islands. "These islands," he says, "are about two thousand in number, and constitute one of the wonders of the world." He describes the people as extremely neat, but weak and delicate in their persons. The principal islands were governed by a woman; a remark made also by the Arabian travellers of the 9th century. Their chief trade consisted in a sort of thread made of the fibres of the cocoa-nut: the nut is macerated in water, and afterwards beaten with a mallet till it grows quite soft; the fibre is then spun out and twisted into ropes. This thread is used to sew together the ships of Yemen and of India.

We next find this restless Mussulman in Ceylon; and shortly afterwards in Sumatra, where the king fitted him out for a voyage to China; of which the following abstract is given in 'the History of Maritime and Inland Discovery:' "After navigating for seven-and-thirty days these tranquil waters, which resemble, in some measure, that portion of the Atlantic called 'the Lady's Bay,' our traveller arrived at a country, named from its king Tawalisi, and of whose situation it is impossible to form any probable conjecture. The king, he says, was sufficiently powerful to oppose the emperor of China. The people were idolaters, handsome in appearance, and resembling Turks: they were of a copper colour, possessing great strength and bravery. The women rode on horseback, excelled in throwing the javelin, and fought like men in battle. One of the chief towns, Kailuka, the port at which the ship put in, was governed by the king's daughter. She sent for our traveller, welcomed him politely in Turkish, and calling for ink and paper, wrote the bismillah in his presence. Leaving this country, Batuta arrived in 7 days at the first of the Chinese provinces. He describes in terms of high admiration the industry, wealth, cultivation, and good order of China. He also observes that the dealings of the Chinese are carried on with paper. They do not buy or sell, he says, either with the dirhem or the dinar; but should any one get these coins into his possession he would melt them down immediately. As to the paper, every piece of it is in extent about the measure of the palm of the hand, and is marked with the king's stamp. When these papers happen to be torn or worn out with use, they are carried to a house which is just like the mint with us, and new ones are given in place of them by the king. This is done without interest, the profit arising from their circulation accruing to the king. The people of China were in his estimation the most skilful artificers on the face of the earth. In painting none came near them. In proof of this he relates a pleasant anecdote:. "I one day entered into one of their cities for a moment; some time after I had occasion again to visit it, and what should I see upon its walls, and upon papers stuck up in its streets, but pictures of myself and my companions! This is constantly done with all who pass through their towns. And should a stranger do any thing to make a flight necessary, they would send out his picture to all the provinces, and he would be in consequence detected."

"The first city he came to in China was El Zaitun. The port appeared to him to be the finest in the world. He saw in it about 100 of the largest sized junks; the small vessels were innumerable. The Mahometan merchants here were numerous and wealthy; and when any stranger of their own persuasion happened to arrive, they treated him with such unsparing liberality, that they very soon made him as wealthy as themselves. From Zaitun, Ibn Batuta made a voyage of 27 days to Sin Kilan, one of the largest cities in China. Here also he found a mosque and Mahometan judge; and indeed he affirms, that in every great town of China there were Mahometan merchants, with a judge and sheikh El Islam to settle their disputes. He learned that beyond El Zaitun there was no town of any consequence. 'Between it and the obstruction of Gog and Magog there is, as I was told, a distance of sixty days: the people who inhabit that place eat all the men they can overcome, and hence it is that no one goes to those parts.' By this obstruction of Gog and Magog, it has been supposed that we are to understand the great wall; but as Batuta takes care to inform us that he had neither seen it himself, nor received an account of it from any one who had, it seems likely that he doubted the truth of this part of his information. In Fanjanfur he met an acquaintance of his youth, a native of Ceuta. This man had also held an office in the palace of Delhi, but coming to China he had amassed great wealth. Ibn Batuta remarks, that he met the brother of the same person a short time after in Soudan, and exclaims, 'What a distance between these two brothers!' But in Ibn Batuta's days the Mahometan merchants appear to have frequently extended their negotiations from China to the Atlantic.

"A river navigation of ten days brought our traveller next to El Khansa (Kinsai of M. Polo, the modern Hangchoo,) which he describes as the largest city on the face of the earth. As every house is surrounded by a garden, the length of the city extends a journey of three days. The city of El Khansa was divided into six cities, each of these being surrounded by a wall. In the first were the guards, twelve thousand in number. In the second city, which was the most beautiful, resided the Jews, Christians, and Turks, who adored the sun: the Christians mentioned here were probably some Nestorians, who penetrated into China either through Persia or from the Christians of St Thomas, in Malabar. The third division was chiefly occupied by the officers of government. The fourth appears to have been the quarter of the wealthy. The fifth and largest city was inhabited by the common Chinese people. Among the curious manufactures which Batuta saw in this place he mentions particularly the dishes composed of reeds, glued together and painted over with brilliant and permanent colours. The population of the sixth city was composed of sailors, fishermen, ship caulkers, and carpenters.

"Some troubles at this time broke out among the members of the reigning family, which led to a civil war and the death of the khan. The deceased monarch was buried with great pomp, after the Tatar custom. A large excavation was dug in the earth, in which a beautiful couch was spread, and the khan with his arms and rich apparel were laid upon it. All the gold and silver vessels of his house, four female slaves, and six of his favourite Mamelukes, were buried with him. The earth was then heaped upon them to the height of a large hill, and on this hill four horses were impaled. In consequence of the disturbances, Batuta hastened to quit the country." In the *Sharo* river of this traveller we clearly recognise the Shara Muran of Southern Mongolia; and by *Khan Baligh*, or 'City of the Khan,' not Pekin, but Shangtoo, built on the banks of that river by Kublay Khan, and the Tartarian capital of the Mongul dynasty, which reigned in China when Ibn Batuta visited it. Such accuracy in the name of the river and in that of the city, giving its Mongolian name, is honourable to his veracity and gives confidence to his narrative. *El Kansa* is the Kinsai of Marco Polo, and the modern Hang-choo, in the province of Tokien; and the fort of *Zaitun* is the same with the Zaitun of M. Polo, the modern Amoy in Tokien, a famed commercial city which once participated in the foreign Chinese trade along with Canton. His description of El Kansa is very similar to that given by M. Polo of Kinsai, the capital of the Song dynasty, before it was taken by the Mongols, and both accounts deserve to be compared as reflecting mutual light and establishing the veracity of both. A branch of the river Tsien-tang-keang on which Kinsai or Hang-choo stands, passes by Zaitun. In its immense extent he agrees with M. Polo, making it a city of 3 days' journey in length, whilst the latter makes it 100 miles in circuit. Batuta makes it the largest city on the earth, which vindicates M. Polo from the charge of exaggeration in stating its extent, which his annotator Marsden has contracted to a third of the dimensions assigned by M. Polo, by substituting *li* for miles, as thinking he intended, by miles, Chinese *li*. But the testimony of Batuta sets the matter at rest, as a city of 3 days' journey in length must be much more than 100 *li*, or half a degree in circumference. At this very day Hang-choo, though not now the abode of a monarch and the residence of a court, and therefore but the shadow of what once it was, is still deemed the most populous city in China. Another point of coincidence with M. Polo is the fact of the existence of paper-money in China, stated by Batuta, and that commercial dealings were not then, as now, conducted in bullion, but in paper-currency, which was first made by Kublay Khan, at the time when M. Polo was at his court. But this paper-money was abolished on the expulsion of the Mongols from China, shortly after the time of Batuta's visit. The *Sin-Kilan* of Batuta is the city of Suchew, in the province of Che-Kiang, which really is, as he says, still one of the largest cities of China. It does not appear, however, that Batuta visited the interior of China, but that his travels were confined to the coast and the cities of Amay, Hang-choo, and Suchew, else he could not have said that beyond Zaitun there was no city of any consequence, and that the Sar river was one of the greatest in the world. As the river of Khan-balegh or Shang-too, bore the same name with the great northern river of China, it is probable he confounded the former with the latter, and another proof of his ignorance is, making the river of Shang-too run to El Kansa, or Hang-choo, whereas it falls into the gulf of Lyacetong. His knowledge therefore of interior China was all hearsay; but so far as his personal information went, it completely harmonizes with that of M. Polo. *Fanjanfer* is the Faufer of M. Polo, a district of Sumatra. His *Khorazm* is the ancient city of Carizme, or Old Oorgoonjg, now in ruins, and the famed capital of the Khowarasmian sultans. *Barwan* is the modern Perwaun at the southern foot of the Hindookhoosh, on the road from

Andoraub to Cabul and Candahar. His explanation of the name *Hindoo-khoosh*, though absurd, has some truth in it, as the Hindoos of the hot places on the banks of the Indus cannot stand the intense cold and snows of the Hindookhoosh.

Returning to Syria, and having made the pilgrimage of Mecca for the third time in the year 749 (A. D. 1348), he returned to Tangier the following year; but his wanton passion for travelling awoke again, and hurried him off in quest of new adventures. Having wandered through the south of Spain, he crossed to Morocco, and thence directed his steps to Nigritia. Crossing the Great Desert, he came to Abu Latin, the first district of Soudan. The inhabitants were chiefly merchants. Their clothing was brought from Egypt. The women appeared to our traveller extremely beautiful. "No one here," he observes, "is named after his father but after his maternal uncle. The sister's son always succeeds to the property in preference to the son; a custom which I witnessed no where else, except among the infidel Hindoos of Malabar."

Proceeding from Abu Latin to Mali, he found the roads shaded by trees of so great a size that a caravan might shelter itself under one of them: as he passed by one of those trees, he saw a weaver working at his loom in the hollow of the trunk. Happening while at Mali to meet the king one day at a feast, he rose up and said, "I have travelled the world over, and have seen its kings; and now I have been four months in thy territories, but no present, or even provision, from thee has yet reached me: now what shall I say of thee, when interrogated on this subject hereafter?" In consequence of this remonstrance, the sultan appointed him a house with suitable provisions.

Travelling along the Niger, which he calls the Nile, Batuta saw on the banks of a great gulf or lake a great number of hippopotami. He was here informed, that in some parts of Soudan the infidels eat men; but that they eat none but blacks, the flesh of white men being unwholesome, because not properly matured. After a few days he arrived at Tombuctoo. The site and existence of this city, so long the opprobrium of African geography, are now clearly settled, and Batuta is the first traveller in whose journal it is recognised. His *Abou Latin* is Latham, a district of his *Mali*, which in its turn is the Melli of Leo, and the Lamlim of Edrisi. The sultaun of Mali (Melli) was the sovereign of Tombuctoo, called Tambactoo by him, where a black magistrate his governor or representative resided. From Melle he came S. to the Niger, called by him the *Neel*, or "great river." On this river was the town of Karsanfoo, from whence, says he, it flows to Kabara (the modern Kabra, the port of Tombuctoo). Hence to Zaga or Sagha, and from this place the Neel (Niger) descends to Tombuctoo. The major part of the inhabitants were merchants from Latham, a district of Mali (Melli). The lord of Mali was Mansee Soliman, and it is curious that the name of the prince who founded Tombuctoo in 1215 was Mansee Soliman, according to Leo Africanus. In the Latin translation and larger edition of Batuta's travels by professor Rosegarten, it is stated that Tombuctoo was situated 4 miles from the Neel (Niger), which Batuta on leaving Tombuctoo crossed in a canoe made of the trunk of one tree, to Kawkaw (the modern Kuku). It is curious to remark the coincidence of the *Kabara* of Batuta with the *Kabra* of Park, Jackson, and Laing, and Clapperton, and that in his journal it is made 4 miles from Tombuctoo, whilst Laing and Caillie make it 5 miles,—a difference easily reconcileable when we consider that both Laing and Caille use French and English miles, while Batuta uses Arabic miles, which are longer. The *Kawkaw* of Batuta, the Kuku of the Arabian geographers, is now recognised in the modern *Kouka*, near the western extremity of the Tchad Lake in Bornou. He came then to Bardama, and afterwards to Nakda, a handsome town built with stone of a red colour. Rich copper-mines were in its immediate vicinity. From this place he returned to Fez, where he took up his residence in the year 754 (A. D. 1353), 28 years after he had first set out upon his travels.

Ulugh Beg.] The last who closes the succession of oriental geographers, is the famous Ulugh Beg, grandson of Timur Beg, and who reigned at Samarcand from 1447 to 1450. This prince was passionately fond of the mathematical sciences; and during the life of his father Shah-Rokh, applied himself to the study of astronomy. For the purpose of assisting his studies he founded an academy, built an observatory, and constructed astronomical instruments of extraordinary magnitude, particularly a quadrant and gnomon. He sent for the most celebrated astronomers from the neighbouring countries to aid him in his observations on the longitudes and latitudes of the planets, and it was under his name and auspices that the famous tables called *Zij Ulugh Beg*, or 'the Astronomical Journal of Ulugh Beg,' were published in 1437, by Al Kushji, who had in reality the greatest share of the work. In these tables, the longitudes and latitudes of several places were corrected, and the arrangement is the same as that of Nasroddin-il-Toosi. The whole work entitled *Marifat-al-Tawarkih* consists of four parts: chronology, geography, longitudes and latitudes, and the celestial motions. The longitudes are calculated from the meridian of the Fortunate islands; but not a few of them neither correspond in his tables, nor in those of Nasroddin, with this meridian, nor with that of Ceuta in Abulfeda.

It was the great misfortune of the Arabs, that during the most enlightened period of their domination—which lasted upwards of 500 years—they were ignorant of the remote parts of the earth,—of the form, magnitude, and contents of every kingdom in Europe and Africa, their own dominions excepted. Ulugh Beg, who corrected the observations of others, places Rome 4° 23′ west of Constantinople, whereas the latter is 16° 28′ east of the former. He also places Rome 55° 27′ east of the Canaries, whereas it is only 30° 7′ east of that meridian. Athens is placed by him 50° east of Constantinople, though it be really 5° 2′ west of that city; and the mouth of the Indus 102° east of the Canaries, or 15° too much. Cashmere is placed in nearly the same longitude as the above, though it lie about 9° east of that position. Excepting the countries immediately under Mohammedan sway, the oriental geographers knew little, and they were too proud and bigoted to learn more; in mathematical geography, they made no improvements beyond those to be found in Ptolemy; and their geographical tables, constructed at successive periods, from Al Fargani down to Ulugh Beg, by no means deserve that confidence which has been placed in them by modern geographers, being almost wholly founded on the basis of itineraries, and only of use in some cases where better materials cannot be had. Still, however, the Arabians, during the middle ages, were vastly superior to the Christians of the Greek empire, and of Europe, in the sciences of medicine, chemistry, botany, mathematics, algebra, astronomy, and geography. For ages subsequent to the destruction of the Roman empire, Europe was involved in worse than Cimmerian darkness; and it is a humiliating circumstance, that to the Saracens or Moors of

Spain the Christians were compelled to be indebted for what little of science was then possessed. The history of that industrious, ingenious, elegant, and gallant people, has been grossly falsified by Christian writers, who have traduced them as rude and barbarous, while they far surpassed them in the elegant and useful arts. To say the truth, the Christians of Spain conquered, persecuted, and barbarously expelled a race of people far more industrious and accomplished than themselves; and with all the advantages to be derived from the improvements of modern times, the Spaniards have never equalled the people whom they expatriated.

Discoveries of the Northmen.] Considerable geographical information respecting Scythia and Salmatia resulted from the Scandinavian expeditions of the 10th and 12th centuries. Till the year 1157, Finland was the resort of savage pirates, known by the names of Fins and Vigrials, with whom the Swedes waged a fierce warfare. These intrepid seamen of the north, harassed by their piracies the shores of Armorica, and bade defiance to the power of Rome itself. King Alfred translated into the Anglo-Saxon tongue the geography of Arosius, a Spanish monk of the 9th century, and added to the translation the narratives of two contemporary travellers in the north of Europe. One of these was Other a Norwegian nobleman, who sought a refuge at the court of Alfred from the civil wars and disturbances of his native country: he was esteemed in his own country a man of great wealth, and possessed six hundred tame deer, besides six decoy deer, and twenty head of cattle. He also received an annual tribute from the Fins, which was paid in valuable furs, feathers, whalebone, and ship cables made of the skins of seals. Thus it appears that the manners of the North were nearly the same a thousand years ago as they are at present. Other dwelt in *Halgoland* (the most northern part of Norway), on the shores of the *Western Sea*. The country to the north of his habitation was waste and uninhabited, with the exception of a few spots to which the Fins resorted in the summer season to hunt or fish. Being desirous to know how far that uninhabited country extended towards the north, he sailed northwards along the coast, keeping the open sea always on the larboard or left hand of his course. Three days' sail brought him as far to the north as the whale-fishers were used to go: he continued his voyage, however, for three days longer, and then found that the coast, instead of running to the north as hitherto, turned towards the east. Following this coast for four days, he found it again bending to the south: and sailing due south for five days, he came to the country of the *Biarmians* or Permians, who appeared to him to speak the same language as the Fins. Thus it appears that Other sailed round the north of Europe into the White Sea, on the eastern side of which was the country of the Permians, at present possessed by the Samoyeds. Curiosity was not the only motive of his voyage: he had also in view the pursuit of the walrus or *horse-whale*, as king Alfred correctly translates it, which were extremely valuable not only on account of their tusks, which made fine ivory, but also for their strong and pliant skins. In the White Sea he found these animals so numerous, that his party succeeded in killing threescore in three days. Other was also acquainted with the navigation of the Baltic. He mentions *Schon-eg* or Scania, and *Becinga-eg* or Blekingia, with the countries of the *Angles*, *Saxons*, and *Vends*. *Cwenland*, or the country of the Cwens, was situated between the White Sea and the gulf of Bothnia. The resemblance of that national designation to the Scandinavian word *quean*, which signifies a woman, led many writers of the middle ages to believe that there was a country of Amazons in the north. Thus ignorance and the resemblance of names peopled the north with Amazons, with Saracens, and Turks. Wulfsten, the other Norman whose travels are related by king Alfred, visited more particularly the eastern shores of the Baltic. To the east of *Weonodland*, or the country of the Vends, and *Witland* or Prussia, was the river *Wisla* or Visfula, and all beyond that was called by the general name of *Estum* or *Estland.* Icelandic sagas mention, besides, *Poulina-land* or Poland, and *Gardarike*, or the empire of the city, the proud title once borne by Novogorod. The Don is named by the oldest Icelandic writers *Vanaquist*, which probably signifies the *river* of the *Steppes* or *Desert.* In *Estland*, or modern Russia, there were, according to Wulfsten, a great number of towns, in each of which there was a king. The country abounded in honey, and had plenty of fish. The kings and nobility drank mares' milk, while the slaves and poor people used only mead; for they brewed no ale, but had mead in profusion. Among the singular customs of the Estlanders, observed by the Norman, was that of distributing the effects of those who died, not to the relations of the deceased, but among the best riders at his funeral. After the body was placed upon the pile, all the property of the deceased was divided into heaps, five, six, or more in number, according to its value: these heaps were placed at equal intervals from each other, and regularly increased in size, so that the largest and most valuable was at the greatest distance from the town. Then all who had fleet horses were invited to attend and strive for the prizes. The heaps were won by the swiftest in the race."*

In 964 the Northmen took possession of the Shetland Islands, and exterminated the original inhabitants; and in 893 they made the conquest of the Hebrides. We have in another part of the work noticed the discovery of Iceland and the Terie Islands by the same people.

Theophylactus Simocatta, who wrote about A.D. 610, relates that the chagan or khan of the Turks in Upper Asia, about the year 597, subjected the Avari. "A part of the latter," he adds, "took refuge amongst the Taugas, a celebrated colony of the Turks, distant 15,000 stadii from India, the inhabitants of which are very brave and very numerous, and surpass all the people of the world." Another part of these Avari having lost their liberty, contented themselves with a humble lot, and betook themselves to the people of Mukrit, who are neighbours of those of Taugas. Proceeding further in his narrative he says that, "the Chagan of the Turks after having happily terminated the civil war which had broken out in his territories, concluded an alliance with the people of Taugas." The prince of this country, he informs us, was named Taissan, (Ταϊσαν) which signifies 'Son of God.' "This kingdom," he adds, "is now troubled with internal disorders, because the succession of its princes is hereditary. Idols are adored there; but the laws are just, and the people temperate. According to an ancient custom, which has obtained the force of law, men are prohibited from wearing ornaments of gold, although there is much gold and silver amongst them, being brought thither by the great trade which they conduct. Tangas is divided by a considerable river, which formerly separated two numerous nations, one wearing black dresses, the other red. In our days, under the reign of the emperor Maurice, those of the black dresses crossed the river to attack those of the red, and, having vanquished them, possessed themselves of their territory. The barbarians say that their city of Tangas was built by Alexander, after he had overcome the Iogdians and Bactrians, and destroyed 120,000 persons by fire. The wives of the king, decked with gold and precious stones, ascend gilt chariots, each drawn by a mare richly adorned with a golden bridle and jewels. The prince has 700 concubines. The wives of the nobles use suspended carriages silvered over. They also relate that Alexander caused another city to be built but a few miles distant (from Tangas); the barbarians called Choubdan. After the death of the king, his wives shave their heads, and constantly wear mourning; according to their laws, they ought never to quit his tomb. Choubdan is parted by two large streams, bordered by cypresses. It is said that these northern Indians have white complexions. A considerable number of silkworms are found amongst them, which afford a vast quantity of silk of different colours. These barbarians are extremely skilful in rearing them and making profit of their produce." Here we have 4 nations, the Turks, the Avars, the Mukrits, and the Tangas, all in Central Asia and on its border. In what parts of that region these nations existed, is a question not easily answered, from the scanty sources of information which we possess, relative to the early history and geography of that region, and the fortunes of its inhabitants. But we shall endeavour to reply to it, as far as imperfect knowledge of these dark and distant times has reached us. In the middle of the 6th century, a revolution in Central Asia—long fertile in such—for the first time revealed to the Christian world the dreaded and equally hated name of the *Turks*, who, under Bertisma their famed leader, revolted against the Geougen, who in their turn had aided the Chinese to expel the Hiyongnoo, and by a decisive victory almost extirpated that people, and erected a new empire in Central Asia. They then dwelt to the W. of the Altai, the great dividing ridge which separates eastern from western Mongolia, or Soongari, and to the N.W. of Toorfaun in Chinese Toorkistaun. Extending their conquests westwards over Chinese Toorkistaun—which from that event took the epithet of Toorkistaun—they passed the Beloor, or Western Imaus, and subdued the Epthalites, or White Huns of Procopius, who ruled in Khotlan, over the region of the Golden river the Oxus. To the N.E. they passed the Altai, and attacked and almost exterminated the nomade tribe of the Ogorites, Varchonites, or Avars, on the banks of the Til or Toula, a tributary of the Orchon itself, an affluent of the Setinga, and denominated Til or Toula, either from its dark colour and great depth, or from the immense sombre forests which shade its course. Probably the epithets *Varconites* and *Ogorites* are corruptions of the term Orchonites, as they dwelt on the banks of the Orchon and Toula. About 20,000 families of them fled towards the N.W. and pursued their career of flight to the Volga, and thence to the foot of the Caucasus, whence they sent ambassadors to Constantinople to implore the protection of the famed Justinian. The *Murkits*, mentioned by this Byzantine writer, are the Merkits, a nomade tribe of northern Mongolia, the Mekrits of M. Polo, who then dwelt towards the Baikal Lake, far to the N. of Karakorom. This is the first time that the Merkites or Mukrits are mentioned in history, and that by a Byzantine writer, near 7 centuries before M. Polo. Part of them also took refuge amongst the Tangas, who must be understood equally with the Mukrites, to have been an independent people, otherwise they could have given them no protection. If the Mukrits lay to the Ogorites, and these to the N.E. of the Altai, where and who were the Tangas of Simocatta. By the sudden erection of their new empire, the Turks became neighbours to the Chinese on the S.W. and S., on the side of eastern Bucharia and Mongolia, and the *Tangas* of Simocatta correspond to the Chinese, for the former names of Seres and Serica had by this time gone into desuetude. But why were the Chinese called Tangas, and their country Tangasta, by Simocatta? and if the Tangas were a celebrated colony of Turks, how comes it that the Chinese were so denominated, as they are not Turks? The Tangas, properly so called, dwelt to the W. of the lake of Lop in eastern Bucharia; they corresponded to the Taghasghas of Edrisi, and were governed by a Khakan or Khan, and their capital was on the great river of Yarkund, or the Talimon, which ran E. to the lake of Lop, called the sea of Sin by Edrisi. China was then divided into 2 kingdoms, those of the N. and the S. and had been so for more than 300 years, and the dynasty which ruled in northern China was denominated that of Wey, whilst that of the S. was called Chin. The princes of the former seem to have been of the Tartar race, and were succeeded by another dynasty called Suy. During this divided state of China, the Tangas, or Turks, obtained great power in the northern China under the Wey dynasty, and the succeeding dynasty of Suy was of Turkish origin, or of the Tangas nation, and was originally confined to a small principality called Suy by the Chinese. The capital of the Suy dynasty in northern China, as well as that of the Wey dynasty, was Se-gan-foo in Shensi, and corresponds to the Choubdan of Simocatta, who received his information from the Turks, many of whom under the emperors Justin, Tiberius, and Maurice, visited Constantinople, and the name given to Se-gan-foo by the Turks, the Nestorians, and the people of western Asia, was Khumdan, or Choumdan. The Wey Shwuy runs to the northwards of this city, and divides itself there into two branches, which reunite after running round it, and these two arms are the two large streams which, according to Simocatta, parted Choubdan, Choumdan, or Se-gan-foo, the capital of the Suys or Tangas. The prince of the Tangas or Northern China passed the Keeaung, or Great Central river of China, to attack the emperor of China residing at Nanking, or the Southern Court, entered Nanking in triumph, and overturned the empire of Southern China, and united both into one empire, in the year 589 A.D., precisely in the reign of the emperor Maurice, as Simocatta relates it, and the Keeaung exactly corresponds to the narrative of the Byzantine historian, as being the boundary between two numerous nations: the people to the south being dressed in red, (yellow) as silk is the prevalent dress in southern China. It is for the above conquest of Southern China by the Tangas, or Suy dynasty, that Simocatta has applied the name of Tangasta to China, and of Tangas to the Chinese, calling them after the name of the Tangas, or Suys, the conquering dynasty. The title of Taissan, or Son of God, given the prince of the Tangas, is another decisive proof that by Tangasta China is intended, for it is just the usual Chinese epithet, Tein-tsu, son of Tein, or Heaven, given to their emperors, and hence the epithets of the celestial presence and the celestial court, given to the court of Peking. The rest of the description of Simocatta corresponds so exactly to the Chinese, as the cultivation of silk-worms, the manufactures of silk, their great commerce, the worship of idols, or the religious system of Fo, or Booddha, the splendour of the court, the number of the emperor's concubines, and the colour of the Tangas, as white compared to the Hindoos, that it cannot be misunderstood by any who are at all acquainted with the history of China, its geography, and other things peculiar to that region and people. It is remarkable also, that at this period, the great range of the Altaian mountains first became known to Europe under the Toorkish appellation of *Ek-tak*, or 'the White or Snowy mountains,' and that the camp of Disabut Khagan of the Toorks was at the western foot of this range, not far from the sources of the Irtish. Thus we have the Turks at the foot of the Altaian mountains, the Varchonites on the banks of the Til or Toula, called Kara Meeran, or the black river, by the Turks and Mongols, the Murkits or Merkits, to the N. of these, and towards the lake of Baikal, the Tangas originally to the W. of the Lop lake, who under the Suy dynasty ruled in the Northern China. The conquest of Southern China by these Tangas, or Suy sovereigns, and the union of both the Northern and Southern China under one sceptre as its consequence,—the Chinese title of Taiosan, or Tein-tsu, 'Son of heaven,' (God in Simocatta) given to the sovereign, and the existence of the Altaian range under the name of Ek-tak, which the Byzantines not understanding denominated the Golden instead of the White mountain, although Altoun Tak, or 'the Golden mountain,' is in reality its more usual name. All these particulars, besides the others above mentioned, were a great addition to the geographical knowledge then possessed, as it extended such knowledge to China and Central Asia, countries unknown before. It will be asked, how came the Byzantine writers, and especially Simocatta, to the knowledge of such nations, and countries, and revolutions, in Central Asia and China? The answer is ready: first, the embassy of the fugitive Avars to Constantinople, and the successive embassies of the Turkish Khagan to Constantinople, developed this new geographico-political information. Two successive embassies were sent by the Byzantines to the camp of the Turkish Khagan, all the way to the western foot of the Altai; but it is our great misfortune that no account of the geography of the route beyond the Caspian sea, whether in going or returning, is left us by the Byzantine writers. We have only an account of the reception of the Byzantine ambassadors by the Khagan left us. But it is clear that all this additional information would be obtained at the court of a prince who was then in alliance with the Taissan, or prince of Tangasta or China. The statement therefore of Simocatta given above, affords evidence of its accuracy, and of the veracity of the Chinese annals.[7]

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* Lardner's Cyclopedia.

Missionaries, &c.] The discoveries of the Arabians and Scandinavians added little to the actual knowledge of Europeans in those days. In fact, not only the geographical, but even the topographical ignorance of the learned in the middle ages was extreme. The abbot of Clugny in Burgundy, conceived Paris to be separated by a vast interval from his domains; and Otho the bishop of Bamberg had never heard of the Baltic sea, until he set out on a mission to evangelize the Pagans on the coasts of Stettin and Colberg!

Something of the same feeling, which roused the nations of Europe to vie with each other, in the toils and sufferings of the crusades, appears to have given birth to the literature of travels, in its more appropriate shape. The superstition which had, for a long time, attached such high estimation and reverence to the relics, which were said to have come from the Holy Land, and which were borne in solemn procession through all the great cities and large towns of Europe, as objects entitled to a species of adoration; this same superstition would, of course, regard Palestine itself as an object of the most intense interest, and would create an ardent desire to gain all the knowledge respecting it which could be had. It was to gratify this curiosity, that some of the pilgrims to the Holy Land, who belonged to the company that made the first crusade, undertook to describe the events which occurred during their journey, and the objects which they found in Palestine. Ruperti, a monk of Bergen, who marched with the army of Godfrey of Bouillon, was the first, we believe, who composed such a narration. Every successive crusade gave occasion to new ones of a similar nature. Not long after the art of printing came to be in general use, books of this kind had become so numerous, and were in so great demand, that a kind of *Corpus* of them was published by Sigmund Feyerabend, in one considerable volume, printed in the year 1583. As this edition was soon sold off, and as it did not comprise all the works of the same nature which might have been included, Nicolaus Noth, of Frankfort on the Mayne, republished it with additions, in two folio volumes, in the year 1609. This collection embraced 21 itineraries, beginning with that of Ruperti mentioned above, and ending with that of John Schwallart (Zuallart), a native of the Netherlands. A number of these itineraries were composed in Latin, French, and various other languages of Europe; which were all translated (some of them very poorly) into the German, and printed by Noth in this language. To the whole collection thus made, was given the name of *Reissbuch des heiliges Landes*, that is, 'Itinerary of the Holy Land.' Similar to this work, in manner and spirit, is another collection, entitled *Voyages faits principalement en Asie, dans les XII., XIII., XIV., et XV. siècles, par Benjamin de Tudèle, Jean du Plan Carpin, etc.; par Pierre Bergeron, Haag,* 1735: 2 tom. folio.

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[7] See the *Journal Asiatique* of Paris, for April 1826.

Adamnan, abbot of Iona, wrote a description of Jerusalem and the Holy Land, from the oral narrative of Saint Arculf. Willibald, the first bishop of Eichstadt, has left us a detailed account of his pilgrimage to the Holy Land in 730.[1]

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[1] The following curious journal of a tour to Jerusalem, performed by Ingulphus, abbot of Croyland, in the 11th century, is preserved by Hackluyt in his 2d volume, and is thus quaintly rendered by him into English from the original Latin.—"I, Ingulphus, an humble servant of reverend Guthlac, and of his monastery of Croiland, borne in England, and of English parents, at the beautiful citie of London, was in my youth, for the attaining of good letters, placed first at Westminster, and afterwards sent to the universitie of Oxford.—And as I grew in age, disdayning my parents meane estate, and forsaking mine owne native soyle, I affected the courts of kings and princes, and was desirous to be clad in silke, and to weare brave and costly attire. And loe, at the same time William our sovereigne king now, but then erle of Normandie, with a great troup of followers and attendants, came unto London (1051), to conferre with king Edward the Confessour, his kinsman. Into whose company intruding myselfe, and proffering my service for the performance of any speedy or weightie affayres, in short time, after I had done many things with good successe, I was knowen and most entirely beloved by the victorious erle himselfe, and with him I sayled into Normandie.—When as therefore, being carried with a youthfule heat and lustie humour, I began to be wearie even of this place, wherein I was advanced so high above my parentage, and with an inconstant minde, and affection too ambitious, most vehemently aspired at all occasions to climbe higher: there went a report throughout all Normandie, that divers archbishops of the empire, and secular princes were desirous for their soules health, and for devotion sake, to goe on pilgrimage to Jerusalem.—Where we were received by the most reverend, aged, and holy patriarke Sophronius, with great melodie of cymbals and with torch light, and were accompanied unto the most divine church of our Saviour his sepulchre, with a solemne procession as well of Syrians as of Latines.—Howbeit, *the theevish Arabians lurking upon every way, would not suffer us to travell farre from the city, by reason of their huge and furious multitudes. Wherefore about the spring there arrived* at the port of Joppa a fleet of ships from Genoa. In which fleet, when the Christian merchants had exchanged all their wares at the coast townes, and had likewise visited the holy places, wee all of us embarked, committing our selves to the seas: and being tossed with many stormes and tempests, at length wee arrived at Brundusium: and so with a prosperous journey travelling thorow Apulia towards

Adam of Bremen, who lived two centuries later than Anscaire, drew from his work, and followed his example, in giving a detailed description of the kingdoms of the North. He treats of Jutland, and names many islands in the Baltic which had escaped the notice of his predecessors. He is also the first to describe the interior of Sweden, as well as Russia. All these writers deal largely in the marvellous; and, indeed, it has been well remarked, geography in their hands was little more than a description of the wonders of the world. Gerald Barry, better known under the name of Giraldus Cambrensis, is one of those whose writings and history furnish an apt illustration of this remark. Gerald was born in 1146, and had studied with honour at the university of Paris. Returning to England, 1172, he was put in possession of several benefices, and having accompanied prince John on a mission to Ireland, he employed his talents for observation in writing a history of that country, and of Wales, which he afterwards publicly read at Oxford, on three days successively, first to the poor, secondly to the doctors and men of literature, and on the third day to the scholars, soldiers, &c. He expatiates on the exquisite delight which these exhibitions afford to every class of his auditors, and describes them as presenting "a most glorious spectacle, which revived the ancient days of the poets." His writings are by no means destitute of information, but abound in the most puerile and ridiculous stories. "At Chester he observed that the countess Constance kept a herd of milk-kine, made cheeses of their milk, and presented three of them to his comrade the archbishop of Canterbury." He adds, "that he remarked an animal between an ox and a stag; a woman born without arms, who could sew with her toes as well as others could with fingers; and that he heard of a litter of whelps begotten by a monkey."

Maps.] Maps do not appear to have been very uncommon even in the darkest ages. St Gal, who lived in the 7th century, is said to have possessed a map of curious workmanship. Charlemagne had three tablets of silver on which were severally represented, the earth, and the cities of Rome and Constantinople. But the most curious geographical monument of the middle ages, is a map preserved in the library of Turin, attached to a manuscript commentary on the Apocalypse, which was written in the year 787. "It represents the earth as a plane, bounded by a circular line, and divided into three unequal parts. To the south, Africa is separated by the ocean from a land called the *fourth division of the world*, where the antipodes dwell, and which the excessive heat of the torrid zone has hitherto prevented from being visited. At the four sides of the world are represented the figures of the four *winds*, each astride upon a pair of bellows, which he labours, and at the same time has a conch shell applied to his mouth, from which he blows hurricanes, as may be conjectured from his distended cheeks. At the top of the map (which is the east) are Adam and Eve, the serpent, and the tree of forbidden fruit. At their right hand is Asia, with two high mountains, and the words *Mount Caucasus* and *Armenia*. From these mountains descends the river Eusis, (Phasis?) and falls into a sea which unites with the ocean, and separates

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Rome, we there visited the habitations of the holy apostles Peter and Paul.—From thence the archbishops and other princes of the empire travelling towards the right hand for Alemain, and we declining towards the left hand for France, departed asunder, taking our leaves with unspeakable thankes and courtesies. And so at length, of thirty horsemen which went out of Normandie fat, lusty, and frolique, we returned thither skarse twenty poore pilgrims of us, being all footmen, and consumed with leannesse to the bare bones."

Europe from Asia. Thus the author returned, in this part of his map, to the geography of the primitive Greeks. In the middle of the map is Mount Carmel, Mount Sinai, Judea, and some other names belonging to the Holy Land. Near a river, which seems intended to represent the Euphrates, are the words *Abicusia, Timisci fixi compti de Sera.* In India are the islands *Criza* and *Algure*, the *Chryse* and *Argurea*, or *gold* and *silver* islands of the ancients. The Nile is also represented, and a note appended to intimate that it flows from *distant mountains*, and over *sands of gold.* Thus the obscurity which involves the origin of the Nile has been in all ages a subject of observation and source of fable. To the north of this map is the island *Tile.* In fine, beyond Africa, to the south, are written these words,—"Besides these three parts of the world, there is beyond the ocean *a fourth*, which the extreme heat of the sun prohibits our being acquainted with, and on the confines of which is the country of the fabulous antipodes." This map may have been useful to illustrate a work of the same age, and of considerable merit, written by some Goth, whose name is unknown, but who is commonly styled the geographer of Ravenna. It is surprising what a number of geographers this writer cites, whose names, but for him, would have shared the fate of their writings, and remained totally unknown. He refers to Castorius and Lollianus, Roman geographers; Hylas and Sardonius, Greeks; Aphrodisianus and Arsatius, Persians, who had written in Greek a Picture of the World; Cyachoris and Blantasis, Egyptians, who had travelled to the south of their native country; Probus and Melitianus, Africans; Aithanarid, Marcomir, and Edelwald, Goths.[2]

A Spanish map, composed in 1346, presents cape Boyador as a point already known, and which had been doubled by navigators. The island of Madeira appears on a map made in 1384, under the name of Isola de Segname, or 'Isle of Wood.' The Azores appear to have been obscurely known before the year 1380.

Benjamin of Tudela.] The rabbi, Benjamin of Tudela, in Navarre, wrote in 1160 a description of whatever appeared to him most curious in the south of Europe, in Palestine, Mesopotamia, Persia, in India, Æthiopia, and in Egypt. He seems to have written from scanty and hearsay materials, and chiefly with the view of forming a statistical view of the Jews of that period. He names China, and speaks at some length of Bassora. His itinerary was composed in Hebrew, and printed in that language, first at Constantinople, in 1543; next at Ferrara, in 1556; and lastly at Breisgau, in 1583. A Latin translation of it was made by Arias Montanus, and published at Antwerp in 1575. Another Latin translation of it, with the corresponding columns of the original Hebrew, was published at Leyden, in small octavo, in the year 1633, by Constantine L'Empereur, professor of Hebrew at the University in that city.

Byzantine Commerce.] We have already seen that the progress of geographical knowledge in every country has followed in the steps of commerce, and been commensurate with its commercial enterprize, it may be proper, therefore, here to give a brief sketch of the rise and progress of the commerce of the west, from Hullman's History of Byzantine commerce.

The Avars, Bulgarians, and Hungarians, became successively masters of the trade between Constantinople and the countries situate to the north-west of it. The Avars, the first who engaged in the western commerce, occupied the provinces situate on the Danube, between the German and Byzantian empires; their intercourse was carried on between Constantinople on one side, and Lorch in Lower Austria on the other; the latter not far from the Danube and the town of Ens, then the see of an archbishop. It thus became the staple where the merchandise of the Greeks and Germans were interchanged. The Avars and Vendes, their neighbours, who had also some share in this traffic, carried both Greek and Oriental commodities thither, which had come from Constantinople to be sent to the Low Countries and the north. Commerce at once enlightens and adds to the prosperity of a people; but it not unfrequently dazzles nations, and inspires a taste for luxury that proves fatal to them: the history of the Avars furnishes an example of this, for they became so civilized, as to be considered the most accomplished of all the barbarous nations; but this soon degenerated into effeminacy, and they were accordingly subdued by the Bulgarians. When Krem or Krum, the chief of the victorious foe, demanded of his prisoners what was the cause of the decadence of so great a nation? they replied that it proceeded from that degeneracy which always arose out of the spirit of commerce. The Bulgarians, however, seem to have followed their example, for they carried on the very same trade, and seemed to have acquired such riches that they excited the jealousy of the Greek merchants. Two of these residing at Constantinople, called Stourak and Cosmos, conceived the idea of depriving them of the commerce of Pannonia, by taking a circuit round by Thessalonica, and they succeeded by means of a eunuch appertaining to Zantzas, the father of the emperor Leo, who procured for them the offices of collectors of the customs along the road to Pannonia, and their vexatious and interested conduct soon produced a war that proved fatal to the Greeks.

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[2] Lardner's Cyclopedia.

In 1019 the Bulgarians lost their liberty, and with it their spirit of enterprize, on which the Hungarians carried on the intermediate commerce between Constantinople and Germany until the middle of the 12th century. During this period, they established factories in the capital of the Greek empire, and had a superb church built for them there; the coins of Byzantium were current in their own country, and they profited greatly by this intercourse. Semlin, or Zengme, was one of the principal *entrepots*, or staple towns, in consequence of which it flourished greatly. No wholesale trade existed between Italy and Germany until towards the end of the Crusades. Constantinople exported a variety of merchandise, which passed through Bucharia, Syria, Egypt, and thence to India, and at the same time imported many commodities from Hungary, Germany, and the Low Countries. The Italian merchants, particularly the Lombards, also carried the merchandise of the Levant to the fairs of France, Germany, and the Low Countries. During the 7th century the celebrated fair of St Denis was visited by the Lombard merchants; but these were mere *retailers*, consisting of jewellers and sellers of spices, who at the same time either exercised the trade of, or accompanied the money-changers, and somewhat resembled the travelling Milanese, &c. of the present days.

Venice indeed carried on an advantageous intercourse with the rest of Italy, but it was not until the end of the 13th century, that Auxbourg and Nuremburg had any connection with Italy, notwithstanding the assertions of Busch; at the commencement of the 14th century it began to bring its spiceries from Italy; it was the same with the *Auxbourgeois*, who did not obtain leave until 1320 to carry on the *transit* trade by the Tyrol. The spice trade across the Alps was not established until the Venetians carried on a direct traffic with Egypt.

Part of the merchandise which Venice sent thither, consisted of the productions of Russia. No sooner were the Venetians interdicted from the Black sea, in consequence of the counter-revolution, effected by their rivals the Genoese at Constantinople, than Vienna profited by this circumstance to extend the direct trade which she as well as Ratisbon kept up with Russia, and thus carry on an intermediate commerce with Venice. So much for the trade by land, and as to the maritime trade which has been supposed to have existed between Italy and Belgium, it is only necessary here to observe that before the 14th century, there exists no example of the Italian navigators passing the streights of Gibraltar.

What applies to the Germans is equally applicable to the Belgians, for it was only during the crusades that the fleets of the Italian republics became sufficiently powerful to strike terror into the Arabian corsairs. The examples of the Germans entering the Mediterranean, before the epoch alluded to, were not on the part of the merchantmen, but corsairs, and ships of war and transports. The navigators of the Low Countries, who at the commencement of the first crusade repaired to Tarsus, were pirates and adventurers. According to historians the *Bremais*, or people of Bremen, not only participated in the first crusade, but sailed to Palestine; and during the third, we find them and the Lubeckois at anchor before and during the siege of Acre. These were not merchants, however, but military men and vassals of count Adolphus of Holstein; and as to the reports of Benjamin de Tudela concerning German and other traders being at Alexandria in 1175, they are accounted as doubtful and even as untrue. The first instance of a merchantman being equipped in Italy for the purpose of trading to the Low Countries, may be dated from the first quarter of the 14th century, when the Venetians, and soon after their rivals the Genoese, began to carry on a contraband trade with Egypt. The earliest instance of spices and silks arriving in the port of Antwerp on board of Venetian ships, according to an author of high reputation, dates from 1318. Next year a merchantman was equipped at Genoa for Flanders, and the Florentines at the same time expedited wool for the manufactories of Brabant.

It was not until after the 12th and 13th centuries that the spirit of commerce awoke and acquired vigour in Germany. Nature had assigned to the inhabitants of lower Germany, Belgium and Scandinavia for the sphere of their commerce, while those of the upper, although placed in a worse situation, sooner acquired wealth and civilization on account of their direct communication with Constantinople, then the principal market for the merchandise of India. Ratisbon was long the place of chief intercourse, and indeed the Danube was navigated all the way from that city to the present Turkey during the 12th century. The Flemish manufactures soon became famous in the East, on one hand, while on the other the example of the debauched court of the Greek emperors introduced the use of spices in cookery, and of silks in dress. 'The necessity of furnishing wherewithal to pay for their luxuries, which soon appeared to "be indispensable, added to the additional demand for the productions of the West at Byzantium, gave a fill up to rural economy, and produced more zeal and care in the cultivation of the earth, augmented the activity of the manufacturer, and spread wealth and prosperity all around.' The Danube, the Oder, and the Vistula, now enriched the cities placed on their banks.

The merchandise exported from Constantinople during the crusades, thence to be distributed throughout Germany by the Hungarians, consisted of all the productions both of nature and art appertaining to Greece, as well as the commodities of the Levant. Among these are enumerated saffron, laurel leaves, nuts, oil, liquorice, raw silk, sacerdotal habits, purple robes, gold, stuffs, pomels of swords, pepper, ginger, &c. This catalogue is extracted from two *tarifs* or regulations for the custom-house of the town of Stain on the Danube, in Lower Austria, where a toll was taken on the great road leading from Constantinople to Germany. The merchandise imported, consisted of slaves, arms, saddlery, woollen cloth, linen, certain wooden manufactures; and finally gold, silver, copper, tin, lead, and mercury. All these productions actually existed in Germany and Hungary, and were transported through Lower Austria along the Danube to Constantinople, whence part was carried to the East. The slaves consisted chiefly of the Vendes and Slavi, who were transmitted from Bohemia and Moravia to Greece, and many of them were employed in hard labour, of which blowing the bellows of the organs at Constantinople is specified as forming a part. Liege, where iron and other metals had been discovered so early as the 10th century, was famous for the manufacture of arms. Flanders furnished the saddlery, the Low Countries the woollen goods; Franconia and Thuringia linens; many of the metals came from Transylvania, and as to the gold, it was obtained from the Danube, near Papau, as well as from the Rhine, while mines of the precious metals were at the same time worked both in Hungary and Transylvania.

Byzantium is very advantageously situated for commerce with the inhabitants bordering on the Black sea, and accordingly it first became the grand *entrepot* to this trade. A great intercourse was kept up with the Greek colonies in the Taurida; and so early as the sixth century abundance of cattle was brought from the Bosphorus. Constantinople kept up a constant communication with the Chazares, the Patzinacci, and the Cumanes, all Turkish tribes, who in the 12th century were dispossessed of part of their country by the Venetians. The Patzinacci, or Petschenegrians, ought to be comprehended among the Tauro-Scythians, with whom the Greeks of the capital entered into a bloody contest in 1043, whence resulted a long and disastrous war, in which the Russians were implicated, they taking part with the enemies of Byzantium. With these last, the Greeks had long and frequent connections, for many of them, under the name of Farjans and Varins, entered into the service of the emperors. A great commerce also was carried on with Russia, and a particular quarter was assigned to the travellers from that country, in the suburb of St Mamant. In the tenth century, their merchants were maintained at Constantinople at the expense of the public. No sooner, however, did they begin to traffic *directly* with other nations, such as the Venetians, the Genoese, and the Germans, than the Greeks became jealous, and would not permit them to remain during the winter at Constantinople, nay, they prohibited them from staying during the same period at the mouth of the Dnieper. On this the Germans and other nations repaired for the purpose of traffic to Kiow. Furs and slaves formed two great articles of trade. But the Greek merchants in consequence of the despotism of their government, and the luxury that reigned in the effeminate courts of their emperors, soon lost their foreign trade, from indolence, inattention, and the nature of their political institutions. Towards the end of the crusades the Italians and Germans began to interchange their commodities, partly by means of the roads across the Alps, and partly through the streights of Gibraltar. "From that moment too, the balance of trade began to lean against the inhabitants of Constantinople, as the importation of spiceries and metals from the east was greater in point of value than their own indigenous productions exported by them. The annual *deficit* was, however, concealed, if not covered by the large sums expended by a brilliant court, and the internal trade which was still carried on with such vigour, as to render Constantinople the most rich and luxurious capital during the middle age.

Venetian and Genoese Commerce.] Of the Genoese and Venetian commerce with India and China, the author of 'Maritime and Inland Discovery,' has given the following account:—"They set out from the shores of Syria, and of the Black sea, because Egypt, whither the merchandise of the east arrived by the Red sea, was closed against them as long as the hostility of the crusades continued between the Christians and Mahometans. Egypt, it is probable, was not again opened as a channel of trade between Europe and India, until after the year 1260, when the Genoese had restored the Greeks to the empire of Constantinople. In recompense for this service, they obtained from the Greek emperors exclusive commercial privileges. The Venetians, when they found themselves shut out from the trade of the Black sea, concluded a treaty with the sultan of Egypt, in consequence of which Alexandria again became the emporium of Indian produce, and so continued to be, till the time when the Portuguese discovered the passage by the Cape of Good Hope, and opened a direct commerce with the Spice Islands. Previous to this commercial revolution, the Genoese and Venetians received their merchandise from India and China by Caffa, Tana, and Ajazzo. It arrived by two different routes. A part of it was brought to Bassora, at the mouth of the Tigris, in the Persian gulf, whence it was conveyed by the river, and across Persia to Tebriz or Tauris, from which place it was sent forward by the Caspian sea, through Armenia and Georgia, to Tana, at the mouth of the Tanais or Don. The more precious and less bulky commodities were transported direct from Tauris over the mountains to Ajazzo or Aias, on the Mediterranean sea. The merchandise conveyed by the other chief commercial route made a great circuit before its arrival at the Black sea. It was conveyed up the river Indus as far as that river is navigable; and then carried on camels through Bokhara to the Gihon, whence it was despatched over-land to the Caspian sea. From Astrachan the route to Asoph lay along the foot of Caucasus. This was the course that was followed also by the caravans to China from the Black sea, which were soemtimes, it is said, twelve months upon the journey."

Carpini.] In another part of our work we have sketched the rise and fortunes of the Mongol empire. 'This new power soon rendered itself an object of respectful observance to the European courts, and two different missions were despatched, in 1246, by Pope Innocent IV. with the view of cultivating its amity and winning it over to the spiritual dominion of Rome. Neither mission succeeded in their object; but Ascelin and John de Plano Carpini, who were at the head of them, have written curious journals of their travels and adventures on this occasion. Their geographical notices, however, are too obscure to be easily followed. Carpini sometimes even confounds the Black sea with the Caspian. "The land of Mongolia or Tartary is in the east part of the world," such is his vague language, "where the east and north are believed to unite: it has the country of Cathay and the people called Solangi on the east; on the south the country of the Saracens; the land of the Huini on the south-east; the province of Maimani on the west; and the ocean on the north. In some parts it is full of mountains, in others quite plain, but every where interspersed with sandy deserts, not a hundredth part of the whole being fertile, as it cannot be cultivated except where it is watered by rivers, which are very rare. Hence there are no towns or cities except one named Cracurim (Caracorum), which is said to be tolerably good; we did not see that place, although within half a day's journey of it when we were at the horde of the Syra, or court of the Great Emperor." In the *Cathay* of Carpini we recognise Northern China. In his *Maimani* we may discover the Naimans, a Mongol horde who roamed to the N.W., near the Irtish at that time; for it is impossible to assign to nomade tribes, as we do to agricultural, a fixed and permanent abode. By the *Saracens* we would understand the Mohammedan tribes of the Lesser Bucharia, and by the Huini the people of Hya or Tangoot, both of which lay to the S. and S.E. of Western Mongolia; and by the *Solangi* is perhaps intended the Solons, a Mandshoor tribe, who really border westwards on Eastern Mongolia. It is clear that, by assigning the ocean as the northern boundary of the Tartar dominions, he was ignorant of the existence of what we now call Siberia. But perhaps by the ocean the great lake of Baikal was meant, which in that ignorant age might very well pass for the northern ocean; and it is not probable that the knowledge of Carpini's Mongol informants went farther north, for the honest but ignorant monk could only speak from such imperfect information as he could obtain from a race of rude and ignorant shepherds, and through the medium of a language which he could not understand.

Carpini mentions the famous Prester John,[1] but transports that far-famed personage into India. “When Zenghis Khan,” he relates, “had finished the conquest of Cathay or China, he sent one of his sons with an army into India; that prince subdued the people of Lesser India, who are black Saracens, and are also called Ethiopians. The Mongol army then marched against the Christians dwelling in the Greater India; and the king of that country, known by the name of Prester John, came forth with his army to meet them. This Prester John caused a number of hollow copper figures to be made, resembling men, which were stuffed with combustibles and set upon horses, each having a man behind on the horse with a pair of bellows to stir up the fire. At the first onset of the battle, these mounted figures were sent forward to the charge; the men who rode behind them set fire to the combustibles, and then blew strongly with the bellows; immediately the Mongol men and horses were burnt with wildfire, and the air was darkened with smoke. Then the Indians fell upon the

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[1] "The gold of Mexico and Peru," says a Monthly Reviewer, "never excited the cupidity of adventurers more vehemently than did the wish of ascertaining the dominions of this august nonentity of a sovereign. The origin of the name has led to many unsatisfactory conjectures, on which it is useless to dwell: but the general idea entertained of the personage so designed may be more briefly and clearly traced. A common opinion prevailed, founded on the reports of very early travellers, that a powerful Christian prince existed in some part of the world unknown to Europeans, but to the south-east of our quarter of the globe. Asia was at first presumed to contain this representative of the apostolical church: but, the search in those regions having for a long time proved fruitless, the eastern coast of Africa was at last conceived to be his residence; and, as the dominions of this monarch were reported to be remarkably extensive, it was imagined that they must reach so far into the interior as to be accessible to travellers who set out from the shore of the west. The Portuguese were not unsuccessful in forming some acquaintance with the natives on the shores of the Senegal and Gambia; and the first settlement was established at Arguin, on account of the protection afforded by its insular situation. By espousing the cause of an exiled native prince, whom they conveyed to Portugal, where he received the rite of baptism, they acquired also considerable information relative to the interior: an armament of some importance secured respect from the chieftains on the coast; and missions were sent inland, some of which, it is probable, penetrated to Tombuctoo, but no particulars are recorded of their expedition. It does, however, appear that they imagined the Niger and the Senegal to be the same rivers, although it has now been confidently ascertained that they flow in opposite directions.

"The discovery of Prester John continuing to be the animating principle, he was next sought in a more southerly direction; and, in the latter end of the 15th century, the Portuguese flag floated in the Zaire, or Congo. Some natives of the country were procured, or rather trepanned away, and instructed in the language of their masters; and, as some Europeans remained as hostages in their place, it was hoped that the latter would also acquire a similar knowledge, by which future communications might be greatly extended. On their second arrival at this river, instant preparations were made for the conversion of the natives; and the reception of the mission will be found in the annexed passage from Murray's Account of Discoveries in Africa:

“The party set out, accompanied by upwards of 200 negroes, carrying on their heads all the baggage, as well as whatever would be required for the service of the altar. They were met half way by a large deputation appointed to welcome them; but, at the distance of two leagues from the capital, a cavalcade appeared, on a much greater scale than any former one. They came in three lines, armed after the manner of the country, and with a prodigious noise of barbarous instruments, performing in such an order, as to remind the Portuguese of the processions for invocation and prayers for the saints. From time to time, the whole body raised a shout so tremendous, that it seemed to rend the skies. The burden of the song consisted always in praise of the king of Portugal, on account of what he was now sending to their sovereign. The troops of Congo then wheeled round, and the Portuguese being placed in the centre, marched to the spot where the king was preparing to give them an audience. It was in a large park, so covered with people, that they could with the utmost difficulty effect a passage. The king was stationed on a wooden scaffold of timber, so elevated, that he could be seen by the whole assembly. He sat in a chair of ivory, ornamented with some pieces of well carved wood. His dress consisted of skins of beasts, which are praised as glossy, and blacker than his own skin; the lower part of his body was covered with a damask robe, presented to him by Diego Cam; on his left arm he wore a bracelet of brass, and on his shoulder a horse's tail, accounted here a peculiar ensign of royalty. His head was covered with a bonnet of very fine cloth, made from the palm-tree, with works in *alto* and *basso relievo*, resembling the texture of our velvet satin. Ruy de Sousa then did courtesy after the European manner, which the king returned in his own, by placing his hand on the ground, and making a semblance of taking up dust, then pressing it to the breast of the ambassador, and afterwards to his own. He then expressed a desire to see the holy things which they had brought along with them, which being taken out and exhibited one by one, were viewed with the utmost attention and reverence by the whole assembly. In this occupation they spent the day and part of the night, when the Europeans were shown to the place appointed for their residence. Next day Ruy de Sousa requested that a church should be immediately erected; a task to which the king applied himself in the most zealous manner. There being no stone in the neighbourhood, it was sent for from a great distance; and every individual was obliged to labour, that the work might be finished with the greater expedition. Hence, though the Portuguese arrived only upon the 29th April, the first stone was laid on the 3d of May, and the whole was completed on the 1st of June. The intended splendour of the ceremony of baptism was abridged, by the intelligence which arrived, that an insurrection had broken out among the people inhabiting the islands of the Great Lake, from which the Zaire derives its source. For this reason, on the same day that the foundation of the church was laid, the king was baptized, with all his nobles, and a hundred thousand of his subjects. Ruy de Sousa then presented to him a standard with a cross, which would certainly secure victory, as being the same which Innocent VIII. had granted to the holy crusade, for the war against the infidels.

“Notwithstanding this auspicious commencement, his Majesty relapsed into most shameless apostasy when an attempt was made to confine him to a single wife; and on other occasions this doctrine did not obtain the sanction of the ladies, who resisted such innovations by practices and devices which did more credit to their perseverance than their modesty. A considerable progress was made into the interior in this direction, and many outwardly embraced the profession of Christianity: but so ill informed were they of its character, that they conceived the salt placed on the tongue in the Romish ritual of baptism to be the thing signified as well as an outward sign; and, as salt was deemed a luxury, they appear to have had no other purpose in undergoing the ceremony than that of gratifying the palate. Prester John, too, who must now have been marvellously old, unless the Portuguese adopted the doctrine that *kings never die* in its literal sense, remained undiscovered, and to be sought in some other quarter.”

Mongols, who were thrown into confusion by this new mode of warfare, and routed them with great slaughter."

Carpini gives a much more favourable account of the Tartars than Ascelin. He describes their manners as more polished and courteous than any thing he had witnessed even in his native country: disputes among themselves (he says) are very rare, for "although they use commonly to be drunken, yet they do not quarrel in their drunkenness." Their dress, their weapons, their horses, and equipments, their moveable houses, their confidence in each other, their honesty, and the modesty of the women; their abstemiousness, their power of enduring hunger, with many other particulars, are dwelt on at great length by Carpini, who is, in fact, the first European that has given a faithful account of this once mighty people.

Rubruquis.] The next traveller in Tartary was William de Rubruquis, or more properly Van Ruysbroeck, who was sent by Saint Louis of France, in 1253, on a mission to Sartach, a Tatar khan whose territories lay between the Don and the Volga. The principal feature in his journal is his account of the famous city of Caracorum, on whose geographical position we have hazarded some conjectures elsewhere. Poor Rubruquis encountered a world of mishaps and fearful perils during his travels mounted on horseback, and with so scanty a share of provisions, that of "hunger, thirst, cold, and wearinesse," he thought there would be no end. He was made to fly like the wind over trackless deserts, travelling forty-three days directly east, then southerly, over high mountains and fertile plains, to the lake Balkash, on whose border was a city called Cailac. Here and in the neighbourhood were a set of idolaters called Jugurs, who roused the indignation of the friar, from the resemblance of their worship to that of the Catholic church. "They have saffron coloured jackets, laced or buttoned from the bosom right down, after the French fashion; and they have a cloak on their left shoulder, like unto a deacon carrying the housel-box in time of Lent." Proceeding to the north-east they journeyed over rocks and hills covered with deep snow; but this was not the worst, for here the guides, with looks of dismay, assured them that the recesses were haunted by demons, who were accustomed to dart out on the unwary traveller, sometimes snatching away the horse from under the rider, and sometimes eviscerating the rider himself, leaving the hollow and lifeless frame still seated. To prevent these fearful accidents, Rubruquis and his party began, with a loud voice, to chaunt the creed, in consequence of which they passed without molestation from the emissaries of Satan, a circumstance that gave them prodigious importance in the eyes of their Tartar guides! Notwithstanding all these marvellous incidents, this monk's account is rather more intelligible than that of his predecessor Carpini, as he fixes the site of Karacorom at 10 days W. of the country of Onan Cherule, which is the true and proper country of the Moal, where was the court of Cingis. By *Onan Cherule* is obviously intended that part of Northern Mongolia, watered by the streams of the Onon and Kirlon, running to the E. and N., and whose junction forms the great stream of the Amoor. *Moal* is obviously Mongolia; and Jenghis Khan really held his court in the district mentioned above, till the capture of Karacorom, which lay on the northern bank of the Orchon. The *Yuguris* are the famed Oygoors or Vigoors. The "saffron-coloured jackets," and other parts of dress assigned them by Rubruquis, clearly indicate the Lamas or Boodhist priests, who are clothed in yellow, which with red is the dress appointed by law to distinguish the priesthood from the laity. The *Cailac* of Rubruquis is the Cialis of Goez, and the Yulduz of Sherefeddin, a great commercial city at that time in the N.E. of Little Bucharia, and resort of caravans to and from China. The adjacent country was then called Organum, because it then contained the Ooorga or imperial camp of Ghayuk Khan, then emperor of the Mongols. It was the country of the Naimans, to the W. of the Altai, which he had to cross before he arrived at Karacorom.

Marco Polo.] The travels of Marco Polo were an early and invaluable contribution to the geographical science of the middle ages. It seems that Marco Polo's father and two uncles, all three Venetian merchants, carried on joint commercial dealings of considerable magnitude; and having, about the middle of the 13th century, embarked together on a trading voyage to Constantinople, where they soon disposed of their Italian merchandise, they determined, in order to employ their capital to the best advantage, on a mercantile expedition to Western Tartary. With a valuable cargo of costly articles, they crossed the Euxine, landed in the Crimea, and at length reached the court (or rather camp) of Barkah, a descendant of Jengiz-Khan. Having with great prudence put all their jewels in his hands, they so completely won his confidence that he entertained them with princely munificence for 12 months: but, as they were preparing for their return, hostilities having broken out between Barkah and the chief of another horde, and Barkah's army having been defeated, they found their road to Constantinople cut off. They were obliged, therefore, to travel circuitously round the head of the Caspian, and through the deserts of Transoxiana, till they arrived at Bokhara. There they had an accidental interview with a Tartar nobleman, then on an embassy to the Grand Khan; who was so much pleased with them, that he begged them to accompany him to the emperor's court, assuring them not only of a favourable reception but ample compensation. The temptation was too strong to be resisted. After having travelled about 12 months, they reached the imperial residence, and were graciously received. The Pope, the crusade, and the relative power of the western states, were favourite topics with the Grand Khan; and on these subjects the merchants gave him correct information. He resolved, therefore, to send back these intelligent persons to Italy with one of his own officers, on an embassy to the See of Rome; professedly for the purpose of applying for a number of preachers of the gospel, but covertly for that of obtaining his influence in Christendom against the Soldan of Egypt and the Saracens. Accordingly, they commenced their return; and, although their Tartar companion died in the early part of their journey, the imperial passport removed all impediments to their progress, and at the expiration of three years they reached Giazzà, a sea-port in the kingdom of the Lesser Armenia.

On landing, they heard that the Pope was dead; and, being advised by the legate to suspend their embassy till a new Pope was elected, they determined *to employ this interval in a visit to their family. When they arrived at Venice, Nicolo found that his wife had departed this world, but had produced Marco (the future traveller), with whom she was pregnant* at his departure, and who was now about 15 years old. Having resided two years in Italy, and during this time no papal election having taken place, the merchants deemed it high time to return to the Great Khan, on whose business they had been deputed, and young Marco accompanied them on their expedition. At Acre, the legate gave them letters to the Tartar emperor: but scarcely had they got under weigh, when they found that the choice of the college had fallen on the legate himself, Pope Gregory X.; who then gave them his benediction, with letters-papal, of a more formal and authoritative kind, and, with two friar-preachers, despatched them on their mission. As the northern parts of Syria were invaded by the Soldan of Egypt, the Polo family prosecuted their journey to the interior of Asia by a north-easterly direction; probably through the Greater Armenia, to the country of Badakshan, near the sources of the Oxus, where they remained 12 months. They then proceeded to the elevated and wild regions of Pamer and Beloor, towards Kashgar, a place belonging to the Grand Khan, and a great resort for caravans. Having traversed the desert of Lop or Kobi for 30 days, they at length reached Kan-chew, and thence proceeded to Tai-yuen-fu. From this place the Grand Khan received notice of their arrival in his dominions, and ordered them to be immediately forwarded to his presence, with all the honours of ambassadors; he received them with peculiar distinction, commended their zeal, accepted the Pope's presents, was highly delighted with a vessel of the holy oil from our Lord's sepulchre at Jerusalem; regarded young Marco with singular complacency, honoured him with his notice, and gave him an appointment in his household, where he soon distinguished himself by his talents, and became highly respected by the court. Having made himself familiar with the four languages most in use, the young man was soon employed by his master in various parts of the empire. It was on these missions that he made notes of his observations on the manners, &c. of the countries visited; and these notes were the substance of his narrative, which he was induced, after his return, to give to the world.

Seventeen years had now elapsed, when the travellers were visited with a natural desire to revisit their native country; and, as the Grand Khan's life was precarious and infirm, it would have been dangerous to postpone their return, because, in the event of his death, it might have been attended with insurmountable difficulty. Their imperial protector, however, was deaf to their entreaties: but it was their good fortune to be relieved from their perplexity by a singular incident. A Moghul prince, who reigned in Persia, and was the grand nephew of the Great Khan, had sent an embassy to his court, which arrived just at this time; stating that he had lost his principal wife, who was of the imperial stock, and soliciting from the Khan a wife of his own lineage. A princess about 17 years old was soon found, and the embassy set out for Persia with their betrothed queen, but were obliged to come back to the capital by the disturbed state of the country through which their route lay. At this juncture, Marco Polo came into port on his return from a voyage to some of the Indian islands; and the Persians having heard from him the observations which he had made respecting the safe navigation of those seas, it was arranged that they should represent to the Grand Khan the expediency of availing themselves of the maritime skill of the Christians, and proceed with the princess under their conduct to the Persian gulf. The Khan could not refuse; and 14 ships of four masts, with crews of 250 men, were provisioned for two years. The venerable monarch dismissed the Polo family with great regret, required from them a promise to return to his service after they had visited their native land, provided them with the necessary passports through all countries under his sovereignty, and gave them many valuable jewels. In their voyage, they kept along the coast of Kochin-China; without touching at Java, steered for the island of Bintan, at the eastern opening of the straits of Malacca; and thence made a short run to Sumatra, which is more particularly described under the name of Java Minor than any other place that they visited. On leaving this port, where it seems they waited 5 months for a favourable season to stretch across the bay of Bengal, and having probably visited the Nicobar and Andaman islands, whose inhabitants are represented as brutish, and scarcely human in their appearance, they touched at the fine island of Ceylon, crossed the narrow strait to the south of the peninsula, and picked up some extraordinary tales about the diamond mines of Golconda. It scarcely appears at what places on the western coast of the peninsula they touched, or of what particulars they derived their accounts from Arabian and other mariners: but there is reason for inferring that, after a navigation of 18 months, the Chinese expedition terminated at Ormuz in the Persian gulf. The fleet, with the surviving crew (600 having died on the passage), probably never found its way back to China. In the mean while, the Grand Khan had taken leave of all his mortal grandeur; the death of this venerable emperor, who was named Kublai, having occurred early in the year 1294. When the ambassadors arrived in Persia with their royal bride, they found that her consort also had departed this life: that the country was then under a regent, who had a hawk's eye on the throne; and that the late king's son was encamped near Khorasan, with a large army, to assert his rights: though the event was doubtful, as it was supposed that his diminutive person disqualified him for the sovereignty. With this prince, however, they left their royal charge. The Polo family then repaired to Tauris, where they realized and invested some part of their wealth; proceeding onwards, they reached Trebisond, on the coast of the Euxine; and thence by Constantinople and Negro-Pont they arrived in 1295 at Venice, in full possession of health and riches, after an absence of 24 years.

The fidelity and veracity of Marco Polo have often been questioned, but have been placed above suspicion by his learned editor Mr Marsden, and the testimony of Malte Brun and other eminent geographers of the present day. "It would be extraordinary indeed," says a Quarterly reviewer, "if, considering all the circumstances under which the travels of Marco Polo were written, many faults, both of commission and omission, were not to be found in them. The greater part have been selected by Mr Marsden for elucidation in his notes, and for vindicating the character of his author, in both of which he has been eminently successful. Of the former class of imputed faults, the most conspicuous are—1. The relation of miracles pretended to have been performed on various occasions; on which it may be observed generally, that every body believed, in those days, in divine interference: our traveller, however, vouches for no miracles on his own knowledge, but only repeats what he had been told by the inhabitants of the places where the traditions were current. 2. An apparent belief in the efficacy of magical arts; but this was the common weakness of the times, and none were exempt from its influence. 3. The descriptions of animals out of the ordinary course of nature. 4. The statements of the extent and population of the cities in China; 5. of the dimensions of the palaces; 6. of the magnificence and number of bridges; 7. of the military forces; and 8. of the amount of the imperial revenues. When to these statements, given in *millions*, was added the extraordinary story of the *black stones* used for fuel, it is not to be wondered at, that, for centuries after his death, he should be branded as a writer of romance.

"The prominent faults of omission are accusations of modern times; and they are such as Mr Marsden is disposed to consider as less excusable, *if really imputable to himself, and not to the loss of a part of the work, or to the omissions of transcribers.* We do not, however, conceive that any vindication of the author's character is at all necessary on this head, even if the probability was not apparent, that they may have been owing to both these causes. Where is the traveller who has been careful to note down every thing that fell under his observation? Manners and customs, and new and singular objects of nature and art, however strange for a time, become familiar from long residence, and unless noted down while the impression of their novelty was strong on the mind, may well be supposed to escape the subsequent attention of the narrator. We can scarcely suppose that Homer was unacquainted with the pyramids of Egypt any more than with the city of Thebes and its hundred gates, yet no mention is made of the former, while he familiarly speaks of the latter. Herodotus describes the pyramids from popular inspection, but never once alludes to the great sphinx. If, however, we may rely on the chronicle of De Aqui, his contemporary, Marco Polo has himself fully accounted for any omissions that may appear in his narrative. So little credit, says this writer, did he obtain, that when he lay on his death-bed, he was gravely exhorted by one of his friends, as a matter of conscience, to retract what he had published, or at least to disavow those falsehoods with which the world believed his book to be filled. Marco indignantly rejected this advice, declaring at the same time, that, far from having used any exaggeration, he had not told one-half of the extraordinary things of which he had been an eye-witness. Let it be recollected too that his book was dictated in a jail at Genoa from loose notes sent to him from Venice, and we shall not be surprised at a few omissions of objects or customs however remarkable. The most important of them belong to China, in which country the greater part of his time was passed. His enemies particularly notice,—his silence with respect to the great wall—to the cultivation and general use of tea—to the preposterous fashion of bandaging the feet of female children in order to render them small and useless through life—and to the employment of wheel carriages impelled by wind. We may at once discard the last of these, as we believe they are confined to a particular district of the province of Petchelee, and have rarely been seen by any stranger. The other three were certainly familiar to him: he must have seen and even crossed the great wall, though at a place perhaps where it is only a mound of earth; but the most perfect and finished part of it is not more than 60 miles from Pekin, and it is there so very similar in construction to that of the walls of the capital and of most of the cities of China, as to cease possessing that attraction which, at first sight, it undoubtedly boasts. Some authors have speculated on its being built subsequently to the time of Marco Polo; and a missionary of the name of Paolino da San Bartholomeo (in a work published at Rome) has boldly fixed on the 14th century as the date of its erection:—he might, with equal probability, have asserted that Julius Cæsar invaded Britain in the 14th century.

" The article of tea has supplied an almost universal beverage to the Chinese from time immemorial, and appears, by the early annals of the empire, to have then, as now, contributed to the revenue; it is mentioned by the two Mahommedans who visited China in the 9th century: the cramping of the ladies' feet too has been a custom from a time 'to which the memory of man runneth not to the contrary.' These things must therefore have been well known to Marco Polo, though he has omitted them in his narrative."

" With all the apparent improbabilities, defects, and inconsistencies of the narrative there is still enough in it," the reviewer justly adds, " to convince the most sceptical of its general accuracy; while the numerous descriptions and incidents afford, as Mr Marsden justly observes, unobtrusive proofs of genuineness; among others may be enumerated, the state in which the bodies of persons destroyed by the hot wind of the desert are found—the manufacture of inebriating liquor from the infusion of dates—the tradition prevailing in Bydakshan, of the descent of its princes from Alexander of Macedon—the gigantic figures of idols in a recumbent posture—the description of the *bos grunniens*, or *yak* of Tartary—the figures of dragons in Kataian or Chinese ornament—the periodical residence of the emperors in Tartary during the summer months—the commencement of the Kataian year in February—the ceremony of prostration before the emperor or his tablet by word of command—the ascent to the top of Adam's peak, in Ceylon, being effected by the assistance of iron chains—the burning of coal, before-mentioned, and a great variety of other matters utterly unknown at the time, but which have since been found to be perfectly correct."

The reviewer's vindication of Marco Polo is just and laudable; but the best test of his veracity is the identification of his geography with that of modern times, which has been well and ably executed by Marsden and Klaproth. He is, in fact, the first traveller who disclosed the vast interior of Central Asia and China to the European world; but such was then the profound ignorance that reigned, that its value was not appreciated, but even rejected, and that for centuries, equally by the learned as by the vulgar, who would not or could not believe that the Chinese were so far advanced in the career of civilization beyond themselves, and treated him as a liar and an impostor for communicating what he could not but know, after 17 years' residence at the court of the greatest prince that ever filled an eastern throne.

Odericus.] The next traveller, in point of time, was Friar Odericus of Friule, one of the Fratres Minores, and usually called *Beatus Odericus.* This good friar set out with unbounded zeal to convert the heathens of the East to Christianity, in 1318. He travelled over the same ground nearly as the family of the Poli had done before him, and though his narrative has now and then a sprinkling of the marvellous, and shows the author to have received, with too credulous an ear, the strange stories related to him in the course of his travels, yet it contains many very curious facts that were not known to the western world before his return, and which he could have learnt only in the countries where they exist. He describes, for instance, the vast resort of pilgrims to the great temple of Jaggernaut, the procession of the enormous car, under the wheels of which 'many pilgrims put themselves, to the end that *their false god may go over them; and all they, over whom the chariot runneth, are crushed in pieces and divided asunder in the midst, and slaine.'* He also describes, *with great accuracy, the Hindoo worship of* the cow, the consecration of virgins to the service of their idols, the human sacrifices, the custom of wives burning themselves on the funeral pile of their husbands, and 'many other heinous and abominable villanies committed by that brutish beastly people.' In Sumatra, he mentions the abundance of gold, silver, and camphor. In Java he finds cloves, nutmegs, and other spices; and trees that yield meal, honey, and the most deadly poison in the world; in which we readily recognize the sago palm and the poison-tree, better known by the name of upas. He notices, also, the stones which are found in the joints of the bamboo, a plant which he describes as a cane of immense size, as large as a tree. These are things with which, at this early period, he could not have become acquainted, but on the spot. His narrative is concluded with the story of the 'Old Man of the Mountain,' and his paradise, described much in the same manner as related by Marco Polo, followed, however, by the description of a most terrific valley, which is wholly fictitious; and which we give below in the literal translation of Hackluyt.[2] The Quarterly reviewer regards the whole story as an interpolation of Sir John Mandeville.

Mandeville.] The celebrated Sir John Mandeville visited Tartary about half a century after Polo, and spent 34 years, according to his own account, in wandering through the East. "He may possibly," says the author of 'Maritime and Inland Discovery,' "have travelled in Palestine and Syria, but his work offers abundant proofs that he never penetrated farther into Asia. He avows himself that he borrowed much from old chronicles and romances of chivalry, and he copies whole pages without acknowledgment from friar Oderic and Haitho the Armenian: but he seldom relates the fabulous tales of his predecessors without giving to them some additional embellishments; and whenever he affects extreme accuracy, he is sure to expose the grossest ignorance. Thus he says that India is 50 days' journey beyond Pekin, and laments that the journey to that country should be so long and difficult compared with that to China. Oderic of Portenau spoke of a sea of sand,—no unfit expression to describe the sandy deserts on the borders of Persia; but Sir John Mandeville, not satisfied with a sea of sand, describes also a river of rocks flowing into it; and he even ventures to assert that this wondrous sea abounds in excellent fish. He alone actually travelled through the country of the Pigmies, who all came dancing to see him. He also visited two islands in the centre of Asia, one of which was inhabited by giants 30 feet in height, while the elder branches of the family dwelling on the other island were 20 feet higher. In India he places two islands, called respectively Brahmin and Gymnosophist. He is the first who writes of the famous lamb of Tatary, that grows inside a gourd or melon. "When the fruit is ripe," says the worthy knight, "it opens in the middle, and in the interior is seen the little animal, with flesh, bones, and blood. It is like a lamb without the wool, and is eaten with the fruit." In the course of his travels he saw many curiosities of the same kind, and among others, shells of so vast a size as to afford habitations for many persons. He also learned from experience, that diamonds, if wetted with May-dew, will, in the course of years, grow to an indefinite magnitude. The hints which he borrowed from romances of chivalry are scattered through his volume with little art or discrimination; and it was on the walls of the king's palace in Java that he saw painted the exploits of duke Oger the Dane.

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[2] "Passing by a certaine valley, which is situate beside a pleasant river, I saw many dead bodies, and in the said valley also I heard divers sweet sounds and harmonies of musicke, especially the noise of citherns, whereat I was greatly amazed. This valley containeth in length seven or eight miles at the least, into the which whosoever entreth, dieth presently, and can by no means passe alive thorow the middest thereof, for which cause all the inhabitants thereabout decline unto the one side. Moreover I was tempted to go in, and to see what it was. At length, making my prayers, and recommending myself to God in the name of Jesu, I entered, and saw such swarmes of dead bodies there, as no man would believe unlesse he were an eye-witnesse thereof. At the one side of the foresayd valley upon a certaine stone, I saw the visage of a man, which beheld me with such a terrible aspect, that I thought verily I should have died in the same place. But alwaies this sentence 'the Word became flesh and dwelt among us,' I ceased not to pronounce, signing myselfe with the signe of the crosse, and neerer than seven or eight pases, I durst not approach unto the sayd head, but I departed and fled unto another place in the sayd valley, ascending up into a little sandy mountaine, where looking round about, I saw nothing but the said citherns, which methought I heard miraculously sounding and playing by themselves without the help of musicians. And being upon the toppe of the mountaine, I found silver there like the scales of fishes in great abundance: and I gathered some part thereof into my bosome to show for a wonder, but my conscience rebuking me, I cast it upon the earth, reserving no whit at all unto my selfe, and so, by God's grace, I departed without danger."

" Early travellers had spread abroad some indistinct rumours of Prester John, a Christian prince supposed to reign somewhere in the heart of Asia; but Mandeville alone had the happiness to see him seated on his throne, surrounded by 12 archbishops and 220 bishops. The empire of this prince was in India, " a land divided into many islands by the rivers descending from paradise." The gates of his palace were made of sardonyx, the bars of ivory, the windows of rock crystal, and the tables of emeralds; radiant carbuncles, too, each a foot in length, served instead of lamps to illuminate the palace by night. Such were the tales which pleased our ancestors of the 14th century. Mandeville also confirms the popular belief that Jerusalem is in the middle of the world; for sticking his spear upright in the ground, he found that at mid-day, at the time of the equinoxes, it cast no shadow."

Marignola.] Among the numerous missionaries who visited Asia in the 14th century, was John de Marignola, a Franciscan and professor in Bologna, a Florentine by nation. In 1339, Marignola set out for the interior of Asia with the pompous title of legate. He was one of the first missionaries who succeeded in penetrating into China by crossing the desert of Cobi; and he seems to have sojourned in that country four years. He then embarked for India, and sailed across the Persian gulf, returning by Palestine and Cyprus to Avignon in 1353. After this he was appointed to the bishopric of Besignano in Calabria; and at the special request of the king of Bohemia, at whose court he had resided some years in the quality of chaplain, he compiled a history or chronicle of Bohemia. In this work the author, according to the fashion of the age, commences his history with the creation of Adam and Eve, and is ingenious enough to accomplish the introduction likewise of his own travels and adventures in foreign parts. The bishop's personal narrative, however, is extremely interesting, and justly entitles him to a place by the side of Plan Carpin, and the excellent Marco Polo. It was not given to the world till 1768, when P. Dobner inserted it amongst his *Monumenta Historica Bohemiæ.* The geographical reader, however, will do well to consult Marignola's narrative in the edition of J. G. Meinert, published at Prague in 1820. Meinert has corrected the text, and re-established a natural order in our traveller's descriptions, by the rectification of his itinerary; he has also corrected the nomenclature, which in the original text is exceedingly obscure. Marignola is by no means happy in his geographical ideas. He imagines that the solid parts of the earth float upon the fluid, and that the great oceanic collection of waters is disposed in the form of a cross, of which two arms are unnavigable. On setting out, our missionary directed his steps to the court of the Tatar emperor Usbeck, in whose dominions he places *Mount Ararat* of Little Armenia. Usbeck seems to have resided at *Saray* on the Achtuba, to the east of the Volga. His next route led him to " *Almaligh* in the empire of Media." The *Median empire* spoken of by the missionaries of this period seems to have been the country of Jagatai, which then extended from the eastern shores of the Aral lake to the desert of Cobi. Almaligh, or Armalek was situated on the Ab-eila, in the middle of this country.[3] Marignola speaks of a town called *Camont* which he visited on his route, and which without doubt must have been Kamil in Little Bucharia, the Camoul of Marco Polo. From the frontier of Armalek, the commercial road led to the frontier town of *Kantcheu*, passing the lake and town of *Lop*, where travellers provided themselves with camels and horses to carry them across the mountains. In 1342, our Franciscan missionary reached the capital of *Kathay*, or Northern China, the modern Pekin, then bearing the Mongolian name of *Kambelek*, or *Khanbaligh*. Here he presented himself with great ceremony to the Grand Khan, who received him with much politeness, and granted him liberty to found a Christian archbishopric in his capital, and to build a cathedral and several churches. War breaking out in Mongolia, Marignola resolved to return by sea to Europe; and in compliance with a wish expressed by the Grand Khan, he took the route of *Mantchi* to Great India. He informs us that the country of India embraces *Cynkalan*, or *Great India*—*Nymbar*, or *Little India*, with the cities of *Kolumbus* and *Cynkali*—and *Maabar* or *Upper India*; in which there was a city called *Mirapolis*. He mentions also the islands in the Indian ocean, particularly *Seyllan*, *Saba*, and the Parades. The *Mantchi* country of the Great Khan's dominions was undoubtedly Mangee, or Whang-ho, Southern China; and, like Marco Polo, he mentions the river *Caramora* as separating this country from Kathay. It is in the neighbourhood of this river, probably the Kiang, that our Franciscan enters on the region of marvels. On its banks he saw numerous magnificent cities which abounded in gold; its waters were covered with boats, in which dwelt thousands of skilful artisans; and the adjacent districts yielded a greater quantity of silk than could be procured from all the world besides. The city of *Kampsay*, the capital of Mantchi, he affirms, contained an innumerable population, 10,000 stone bridges, and a multitude of wonders. This city is the *Kinsai* of Marco Polo, and the *El Khansa* of Batouta, and is now called *Hangchoo*. Our traveller observing an image of the mother of Fo in one of the pagodas in the city, simply enough supposes it to be that of the Holy Virgin. Leaving this city of wonders, Marignola journeyed to *Zayton*, which, Marco Polo informs us, was a famous trading-port on the eastern coast of Southern China. We next find him at *Kolumbus*, which he says is the most celebrated city in all India. Meinert thinks that this Kolumbus is the Palumbe of Mandeville, the Coulam of the Arabs, and the Coluuum of the Portuguese. The Florentine traveller describes pretty minutely the management of the pepper plantations which he saw in the neighbourhood of Kolumbus, and challenges some of the details furnished by Mandeville, but without naming him. From Kolumbus Marignola travels to *Mirapolis*, by which probably we are to understand Meliapoor on the Coromandel coast, as the country which he calls

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[3] From our imperfect knowledge of the geography of Toorkistaun, it is impossible to fix precisely the site of Almaligh. It seems to have been situated on the upper course of the Tchui, which issues from the lake of Tooz-kol or Timoortoo-noor. In the route of Kokhan, the general of Hoolakoo, from Karakorom to Persia, Almaligh is plainly placed to the W. of the Balkash-noor; for to the S.W. of that lake they passed a narrow defile called the Iron Gate, a steep path resembling a flying bridge, and from this defile the route led to Almaligh. And in the Vakeat Baberi, Bauber says that his country Kokaun was bounded on the N. by Toorkistaun, where were the cities of Almaligh, Almatou, and Otrar; and Leyden, in his note, says that Almaligh lay to the N.E. of Kasan (a city of Kokaun) on the other side of the Ala-Tagh. So, consequently, Minert is wrong in placing Almaligh, on the Ili river, in what is now called in Chinese the Thianchan Pelou. The country or district of Almaligh is therefore in the territory of the Great Horde of the Kirgus, and the people who inhabited that district are expressly called *Kirkis* in the itinerary of Kokhan.

Maabar is certainly the kingdom of Maravar. His next point of debarkation is the isle of *Saba*, where he encounters many marvels, and is kindly received by the queen of the country. Meinert supposes the Saba of Marignola to be the Java of the present day; for he talks of a volcano on the island called *Gybert*, and the Arabs of the 9th century knew the volcano of Java by this name. Our missionary is extremely happy to have visited the country of Paradise, which, he says, is situated exactly opposite to *Seyllan*, or Ceylon. He mentions Adam's peak; and tells us that he saw pisangs, and nargils, or cocoa-trees, growing in Adam's garden. He discovers a convent of monks of his own order in *Seyllan*, and a race of sectaries called *sons of Cain*; but unfortunately "an evil-hearted Saracen, the eunuch Coja-Joan, usurper of the kingdom of Seyllan," discovering that our legate carries along with him a very considerable quantity of gold and precious stones, and other valuable articles, which he had successively received as presents during his wanderings, most unpolitely strips him of the whole, and sends him home a great deal poorer than he was when he first set out on his travels. The remainder of his narrative offers nothing very remarkable; he returns by way of Palestine, but seems to have drawn up this part of his itinerary from the Acts of the Apostles.

Clavijo.] The 15th century was distinguished by its geographical discoveries under the adventurous Portuguese, which have been already sketched in the preceding volumes of our work. Among the earliest and most distinguished travellers of this century was the Spaniard, Ruy Gonzales de Clavijo, who was sent by Henry III. of Castile, on an embassy to Tamerlane, in 1403. Of this traveller it has been remarked, that, though frequently inaccurate, and somewhat superstitious, he has, on the whole, less of the marvellous than might have been expected from the age in which he lived. He saw, however, in Constantinople, the spear with which our Saviour was pierced, with the blood still fresh on it; some hairs of his beard, together with the reed, the spunge, 'and the garment for which they cast lots:' he saw also a bone of the arm of Mary Magdalen, three heads of the eleven thousand virgins, and several other relics, which he appears to have contemplated with unspeakable comfort and delight. From Constantinople, he proceeded by the usual route of Armenia and Persia. On the confines of the latter he met an ambassador from the sultan of Babylon, or Bagdad, proceeding with presents to Timur; among these was a beast whose appearance struck them all with wonder and admiration; it was named *jornufa*, and from the description was evidently the giraffe or camelopardalis. This animal was frequently brought from Africa, as a valuable present for the sovereigns of the east; for Marco Polo was acquainted with it, and Barbaro, the Venetian, towards the close of the 15th century, saw what he calls a *zirnapha* at the court of Persia. Clavijo appears to have traversed a great part of Persia, to have crossed the Hindookhoosh into Southern Toorkistaun, and proceeded to the neighbourhood of Samarcand, where he and his party were lodged in a handsome palace situated in the midst of a large garden. In this place they remained shut up for 8 days, under the assurance that Timur always proportioned his respect for ambassadors to the length of time he delayed seeing them. At last they were brought into the presence of Timur, who received them very courteously, and feasted them with horse-flesh and mare's milk. Clavijo seems to have been absolutely dazzled with the splendour of the gold and silver and precious stones, the rich silks and elegant embroidery, displayed at the court of this powerful monarch. Samarcand is described as a city somewhat larger than Seville within the walls, situated in the midst of a vast plain, which, for two leagues on every side, was so covered with gardens, and country houses, the residences of the Tartar chiefs, that the population without was supposed to exceed that within the walls: the gardens, embellished with all manner of trees, appeared to a stranger approaching the city, like a vast forest enclosing it on every side. The population, Clavijo says, estimated at 150,000 souls, was made up of people from all parts of Asia; the policy of Timur being that of attracting persons to his capital from every country famed for any particular art or science.

CHAP. III.—MODERN HISTORY OF GEOGRAPHY.

THOUGH the discovery of the mariner's compass, and the properties of the magnet, served mightily to improve the science and aid the practice of navigation,—though the perusal of the geography of Abulfeda stimulated prince Henry of Portugal to the prosecution of naval discoveries along the coast of Africa, till its circumnavigation was finally accomplished, in 1498, by de Gama,—and although the discovery of America, combined with the discoveries of the Portuguese, already related in another place, opened up a vast field for geographical research, yet no geographer appeared till the conclusion of the 15th century, when *Francis Berlinghieri* of Florence composed an Italian poem, in six books, containing an explanation of Ptolemy's geography, illustrated with maps engraved on copper. In 1550, *James Castaldo*, a Piedmontese, constructed maps of the world, of Asia, Africa, Europe, and several kingdoms, relying chiefly on the authority of Abulfeda. A number of other geographers succeeded, whose names it is needless to mention, as their works, extracted from Greek and Arabian authors, and from the reports of ill-informed and credulous writers, have long descended to the tomb of oblivion, and are never consulted by the learned, unless, perhaps, we except those of *Louis Teixeira*.

Munster.] The most celebrated geographers in the 16th century, were Munster, Mercator, Ortelius, and Maginus. The cosmography of the first was published in 1550, in a folio of 1,330 pages. It consists of six books, the first of which contains an epitome of Ptolemy's first book of geography, with some general remarks on the form and dimensions of the earth, whose circumference he estimates at 5,400 German miles. Europe occupies the three succeeding books, Asia and America the fifth, and Africa the sixth. Munster's descriptions of places are circumstantial and ingenious, but inaccurate. His maps are the rudest possible, having neither latitudes nor longitudes expressed on them, nor any proportion in their parts. He supposes the Caspian sea and Persian gulfs to extend east and west, instead of north and south; India, as might be expected, is very superficially described; and his detail of Africa is chiefly from the ancients. America was then but very imperfectly known; but his details of the voyages of Columbus and other navigators is curious and interesting. Still, with all its faults, his book is a work of merit, considering the time in which it appeared, and the scanty information which was then possessed by even the best informed.

Mercator.] Gerard Mercator, born at Ruremonde in 1512, may be justly styled the father of modern geography. He published an edition of Ptolemy, in which he pointed out the imperfections of the geographical system of the ancients. He also constructed a map of the world on a new plan. Those of the ancients were very rude, for meridians were represented as parallel lines, and degrees of longitude were equal to those of latitude, so that meridians and parallels made exact squares. But his method consisted in laying down a spherical projection of the globe on a plane, in such a way that the places marked according to their longitudes and latitudes should bear the same relation to each other, as if delineated on a globe. This method has obtained the name of *Mercator's chart*, or *projection*, but the principles of the construction of such a map were not demonstrated till 1599, when Edward Wright, an Englishman, pointed them out, as well as an easy and ready way of making such a map. This was a vast help to navigation, since, by enlarging the meridian line, so that all the degrees of longitude might be proportional to those of latitude—as Wright suggested—a chart on Mercator's projection shows the course and distance from place to place in all cases of sailing, and is therefore, in some respects, more convenient to navigators than a globe itself. In 1549, Mercator published a map of Palestine, and soon after one of Flanders which he had engraved. He represented to Charles V. two small globes, one of which was crystal, and the other wood. On the former he traced with a diamond the zodiacs and the principal constellations; and on the latter he delineated the surface of the earth. Mercator also published, in 1555, a map of Europe. In 1585, he finished an atlas containing several maps of France and Germany, to which were afterwards added several maps of Italy. This was published, after his death, by his two sons, in conjunction with Hondius, an eminent cosmographer and engraver. With all his geographical knowledge, Mercator was so credulous as to believe in the existence of a vast rock, in a large basin at the north pole, projecting four branches, two of which were inhabited by pigmies of four feet high.

Ortelius.] Ortelius, contemporary with Mercator, directed his studies and learning to the elucidation of ancient geography, in two works, entitled 'the Theatre of the World,' and the 'Universal Dictionary,' in both which extensive knowledge and profound erudition are displayed. But Greek and Latin writers were alone consulted by him; he had little knowledge of the geography of the middle ages, and was apparently unacquainted with mathematical geography.

Maginus.] In 1595, Maginus, mathematical professor of Bologna, published a system of ancient and modern geography, in 2 vols. 4to,—the first containing a translation of Ptolemy's work, with a judicious commentary, illustrated by 27 maps,—the second comprehending an actual description of the whole world, accompanied with 37 maps. The historical part of this work abounds in the marvellous, and the maps, as might be expected, are very defective and incorrect. Constantinople is placed near 10° too far east, and the Cape of Good Hope occupies the 40th degree of southern latitude. Cape Romania, in Malacca, is 33° too far east; the Caspian retains its ancient form; the Jaxartes is made to run west more than 30° from the desert of Lop; and the form of India is deplorably erroneous. The western American coast is made to approach Japan; and the whole of Siberia is included in Tartary, in the most northern part of which he places the tribe of Naphtali. But these errors are more those of the age than of the man.

Cluverius.] In comparison with the labours of Philip Cluverius, a native of Dantzic, those of Ortelius and Ferrarius bear almost no proportion, so far as ancient geography elucidated by modern is concerned. This distinguished person spoke ten languages with facility. He published a map of ancient Italy, in 1603; and soon after, his learned work on the mouths of the Nile. His *Germania Antiqua*, 2 vols. fol., and his *Italia*, *Sardinia*, *Corsica*, and *Sicilia Antiqua*, are proofs of his vast erudition. He meditated an account of ancient Gaul and Greece, but his premature death, in 1623, in the 43d year of his age, deprived the literary world of the result of his farther labours.

Cambden.] All that Cluvier was in Germany, Cambden, the learned antiquarian, was in Britain. His *Britannia Illustrata* is a stupendous monument of erudition and labour, and is the grand source whence all succeeding antiquarians have derived their information concerning the ancient geography of our island. It was first published in 1586, and in the course of four years subsequent, underwent three editions at London, two in Germany, and another in London, in 1594. It was translated by Philip Holland, in 1610, and by bishop Gibson, in 1694, with large additions. That published by Gough, in 3 vols. folio, is the best and most complete. His account of Scotland and Ireland, however, is very concise, containing little else than etymological and genealogical disquisitions.

Richard of Cirencester, &c.] The first map of Britain alone that was ever made was done by Richard of Cirencester, who flourished in 1340. This map—which properly represents Roman Britain and Caledonia, along with the ancient history of *Albion*, the name he assigns to this country—was not discovered till the year 1757, when it was found in Denmark, and published at Copenhagen. In it the space between the Wall of Adrian in Northumberland, and that of Antonine between the Firths of Forth and Clyde, is named *Valentia*. The space north of this, to the lakes stretching across the island, from the Moray Firth to Loch Linhe, he calls *Vaspasiana*, beyond which is *Caledonia*. The map and description seem to be chiefly from Ptolemy. Robert Salmo, a Guernseyman, who died in 1545, is our oldest general geographer, and *George Lilly*, son of William, the famous Latin grammarian, published the first exact map of our island. But it must be observed, till the commencement of the present century, the distance from the South Foreland to the Land's End, was laid down in all the maps of England half a degree more than the truth. In some of the MSS. of Harding's Chronicle, written in the reign of Edward IV., is a rude map of Scotland. A very accurate chart of Scotland and the Isles, considering the age, was drawn up in 1539, by *Lindsay*, an excellent navigator and hydrographer, when he accompanied James V. on his voyage to the Highlands and Islands; it is much superior to that published by bishop Lesley, in 1578.

Jenkinson, &c.] The first map of Russia known to the other nations of Europe, was made in 1558, by *Anthony Jenkinson*, agent to the English Russia company, from the result of his own observations and inquiries during his long stay in that empire. The first general map of Sweden was published in 1626, by *Buræus*, at the command of Charles IX., and is a good map for the time, being the result of much labour and observation. A large topography of Germany, in 5 vols. folio, was published by *Merian* of Frankfort, A.D. 1637-1654. It is sufficiently methodical, and tolerably accurate, but does not display that ingenuity and erudition which appear in the works of a Cluvier or a Cambden. An atlas, in 3 volumes folio, was constructed and composed in 1638, by *William Jansen Bleau*, the friend of Tycho Brahe, which was well received. Another edition of the same, in 4 vols. folio, was published in 1663, by his sons, Cornelius and William, who sustained the fame of their father. In 1650, appeared the geography of *Bernard Varenius*, an eminent mathematician, astronomer, and natural philosopher. His attainments in these sciences admirably fitted him for producing a system of universal geography. This work was by far the most scientific that had ever appeared on the subject, and Malte Brun reckons him one of the best geographers of the 17th century. Even Newton himself was so pleased with it, that he deemed it worthy of republication, with additional notes. It is wholly a work of geographical science, wherein the principles of astronomy and mathematics are applied for the purpose of demonstrating and illustrating its leading truths. The whole work is divided into 3 books, and 40 chapters. The first book contains the absolute geography of the earth; the second, its respective, or astronomical geography; and the third, its comparative geography. It has been translated into English, and gone through several editions, the best of which is that of 1733, in 2 vols. 8vo. This production, as a work of pure geographical science, may have been equalled, but has never been surpassed.

Riccioli.] John Baptist Riccioli, an Italian Jesuit, an eminent astronomer and mathematician, was the contemporary of Varenius. Sensible of the imperfect state of geography, he attempted to reform it by the aid of astronomy. With this view he published, in 1661, in Latin, his 'Geography and Hydrography Reformed,' in 12 books, the title of each expressing its subject. The subjects handled successively are the following:—General division of the earth and ocean—measures of the ancients and moderns—extent of countries, with their itinerary distances—geometrical mensuration—methods of measuring a degree of latitude, and computing the circumference and magnitude of the earth—the art of measuring heights, as mountains, clouds, &c.—polar altitudes, latitudes, climates, &c.—methods of ascertaining longitudes—tables of longitudes and latitudes, ancient and modern meridians—the doctrine of the tides, and the art of navigation illustrated—copious list of places, alphabetically arranged—method of constructing and using the geographical cross, with an appendix, containing a computation of the population of every kingdom, and of the globe universally, the amount of which he supposes not to exceed 1000 millions. All these topics are treated judiciously and methodically, though the illustrations are sometimes tediously minute. It is perfectly clear, from the enumeration of topics above-mentioned, that, compared with the systems of Varenius and Riccioli, the geography of Ptolemy is a mere skeleton, and those of the Orientals not worth mentioning. But it is equally so, that these works are not adapted for general use, but for those who study geography merely as a science.

Bochart.] The examples of Cluvier and Cambden stimulated others to the task of illustrating the geography of the ancients by modern geography, as Bochart and Briet, Valesius, Palmerius, and the elder Sanson. In 1646, appeared the 'Phaleg' and 'Canaan' of Samuel Bochart, who may be justly denominated the most learned man of the most learned age the world had yet seen. This extraordinary person, instead of wasting his time, talents, and learning, in acrimonious controversy, and polemical gladiatorship (the prevailing vice of the learned in that age), like Salmasius and Petavius, Capellus and Buxtorfius, Voetius and Maresius, applied himself, with all the vigour of a mind richly stored with philological lore and acquired knowledge, to illustrate the geography and natural history of the sacred scriptures. His *Geographia Sacra* consists of two parts, the former treating of the dispersion of the descendants of Noah, subsequent to the building of the tower of Babel, being a geographical commentary on the 10th chapter of Genesis, and the latter, of the Phenician colonies settled in various parts of the earth. The *Phaleg* is divided into four books. The first book, properly speaking, is an introduction to the Phaleg, illustrating the history of Noah and his three sons, in which he endeavours to ascertain the place where the ark was built, and where it rested, on the cessation of the deluge, and treats of the construction of the tower of Babel, the plain of Shinar, the confusion of tongues, and subsequent dispersion of the human race. In the second book, the posterity of Shem are traced out in Assyria, Chaldea, Elymais, Armenia, Mesopotamia, Arabia Felix, and part of Asia Minor. In the third book, the posterity of Japheth are traced out in Media, Iberia, Moschica, Cappadocia, Paphlagonia, Phrygia, Thracia, Greece, Italy, Gaul, Spain, Cilicia, part of Asia Minor, and the isles of the Archipelago. In the fourth book he proves, by historical induction, that the posterity of Ham peopled the greater part of Africa, with part of Syria, Palestine, Arabia, &c. The second division of the work, entitled *Canaan*, is a laborious, ingenious, and erudite attempt to investigate the progress and various settlements of the Phenicians in different parts of the world. This division consists of two books, the one treating of the colonies, and the other of the language of the Phenicians, proving it to be a dialect of the Hebrew. It may be said that he has traversed the whole field of ancient geography and history, in search of the Phenicians, and finds traces of them in almost every region of the world known to the ancients. Uncommon abilities are displayed in every part of this erudite work: the reader is amazed at the extent of learned research shown by the author, and the immense store of oriental and classical quotations brought to bear upon the subjects discussed. The work, however, has its imperfections. Strained and fanciful etymologies are not seldom adopted, inconclusive reasonings as frequently introduced, and illogical conclusions drawn. The abuse of etymology is a foible of the learned, and the variety and extent of Bochart's philological attainments enabled and perhaps disposed him to indulge in it. His geography is in many instances and respects erroneous, especially his longitudes and latitudes. The cause of this was his too great dependence on Ptolemy, and his deficiency of information in Asiatic geography. In this department he had no other guides but the ancients and Edrisi. With all its faults, however, it is an *opus egregium*, and may be considered as the most profound geographical production that has ever appeared. The original edition of the *Geographia Sacra*, in 1646, contains near 900 folio pages, but abounds in typographical errors, which were corrected in a succeeding quarto edition, published in 1681. In a work so replete with multifarious erudition and learned discussion, and containing such a host of names of nations, persons, places, and things, in Hebrew, Arabic, Punic, Persic, Chaldee, Syriac, Celtic, Greek, and Latin, a multitude of typographical errors must have occurred in a first edition. But the most correct edition of the Geographia Sacra, and Hierozoicon, is to be found in that published by the learned John Leusden, of the works of Bochart, in 1700, in 2 vols. folio.

Briet.] Briet, a Jesuit, and librarian of the university of Paris, in 1648 published his "Parallels of Ancient and Modern Geography," but the work is incomplete, as it went no further than Europe, and the maps are of little value. Great errors are committed with respect to the itinerary measures of the ancients; no detail of rivers and mountains is given, and nothing is mentioned in the subdivision of provinces but the names of places.

Cellarius, &c.] *Valesius* and *Sanson* gave the Notitia of ancient Gaul, and *Palmerius* illustrated great part of the ancient geography of Greece; no writer, however, had yet completed a survey of the ancient world. This arduous work was reserved for, and accomplished by Christopher Cellarius, who performed it with fidelity and exactness, in A. D. 1703, in 2 vols. 4to, entitled *Notitia Orbis Antiqui.* All the passages in ancient authors that respect the subject are quoted, after the example of Cluvier. But as the plan descends no lower than the time of Constantine, the geography of the middle and lower ages are wanting. An epitome of the work was published by Bishop Patrick. Sanson was deemed an eminent geographer in his day, and his maps were highly esteemed. But they were far from being accurate, as he was not furnished with a competent number of observations, nor sufficiently profound in his researches. He left two sons, who inherited his fame, and published several geographical productions. Other geographical works successively appeared, as the Atlas of *Scherer*, in 1696; the Geographical Dictionary of *Corneille*, in 1708; that of *De Varea*, in 1713, in 2 vols. folio; and the Great Geographical and Critical Dictionary of *Martiniere*, in 10 vols. folio, in 1726; besides the geographical productions of *Reiske*, *Luyts*, and *Moll*, in Holland; and *Wittsen's* Geographical Account of the Northern and Eastern parts of Europe and Asia, with a large map of these regions, and those of *Hauber*, *Hubner*, and *Ebeling*.

Progress of Mathematical Geography.] Though Mercator may be called the father of geographical science, yet, strictly speaking, mathematical geography, even though its principles were well understood and illustrated by Varinius and Riccioli, was not studied with the attention it deserved and required, till the commencement of the 18th century; and till that period no maps hitherto constructed could be said to be at all accurate. The longitudes during this long period were not at all accurately fixed; observers of latitudes were few, and for the greater part stationed only in the principal cities of Europe; and the positions of many towns, the courses of rivers, and the forms of sea-coasts, were but vaguely ascertained, by the rude estimates of travellers, the imperfect computations of journalists, and the incorrect observations of navigators.[4] But in the 18th century, these defects began to be removed. The most essential improvements originated in France, where societies were formed, and voyages undertaken by order of Louis XIV., whilst accurate observations and surveys were also made, the result of which was an almost geometrical knowledge of many parts of the globe. The labours of *Picard, La Hire, Cassini, Maupertuis, Bouguer*, and *Condamine*, paved the way for a more exact geography than the world had yet seen. The discovery of the eclipses of the satellites of Jupiter, and their utility for fixing longitudes with precision, belongs to the elder Cassini. In 1694, geography was also materially improved in consequence of the famous controversy between Newton, and Cassini, and Huygens, respecting the sphericity of the globe, whether it was a prolate or oblate spheroid, which controversy was continued till near the middle of the last century, by the mathematicians and natural philosophers of the Continent and England.

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[4] By the aid of itinerary measures, such as those of the Roman roads, the ancients estimated the distances of places with some degree of precision; but modern measures being more various, and differing widely from each other, have not, and could not, obtain an equal degree of precision. The Roman roads were much better than the modern, in respect of durability and straightness, especially in Italy and Gaul, and consequently gave the ancient geographers advantages which the modern geographers wanted.

De Lisle.] The celebrated William de Lisle was the first who applied the improvements of astronomy to geography. He was born in 1675, and was the son of Claud de Lisle, a preceding geographer of little eminence. During the early part of his life, he made rapid progress in the study of this science, and constructed several maps, in which many former errors were corrected, and the limits of countries ascertained with precision; the Mediterranean was shortened in its length, and its coasts considerably reduced in latitude; the Asiatic continent was diminished 500 leagues of its longitude; other meliorations were made in tracing the course of rivers, chains of mountains, &c.; and the figure of the Caspian was nearly determined, in a memoir, published in 1721. The proper dimensions of Italy, Sicily, and Greece were also settled by this learned and indefatigable geographer, whose maps and globes were received with universal approbation. He also published a large and excellent map of ancient Greece, in four sheets.

Reland.] In 1714, appeared a learned, elaborate, and accurate description of the Holy Land, composed in Latin, in 2 vols. 4to, entitled *Palestina Illustrata*, by Hadrian Reland, professor of Oriental languages. This learned person was the scholar of the famous Surenhusius. His work—which has been the theme of well-merited praise from Gibbon—consists of three books. The first treats of the names, situation, boundaries, divisions, rivers, lakes, mountains, and plains of Palestine. The second discusses the distances from city to city in Palestine, as given in Josephus, Pliny, Ptolemy, Solinus, Diodorus Siculus, Arrian, and the Itinerary of Antonine. Reland contemplated the construction of a map of the Holy Land, according to the tables of Ptolemy; but had not proceeded far, when he found himself compelled to relinquish the design, upon a further examination of Ptolemy's numbers. "I began," says he, "to make up a geographical map, according to the idea of Ptolemy, and give to each of these cities (those mentioned in Ptolemy) the situation he assigned them, as soon as I could have transcribed this list of cities. But scarcely had I taken down four or five places, when I found, that these could in no way be thus placed, as Ptolemy, or rather his transcribers, who have perverted the numbers marked by him, authorize. For there were places in maritime Phenicia, of whose sites we were certain from Josephus and others, which cannot be placed at all according to Ptolemy's degrees. But when I had proceeded farther, still designing a general map, I was astonished to see places arranged together mutually, which are undoubtedly separated from each other at a very great distance; and on the other hand, places far remote from one another, which I knew to be nigh. In one place, Scythopolis was nearer the lake of Asphaltites than that of Tiberias;—Gaza more distant from the port of the Gazæites than from the lake of Asphaltites;—Antipatris more to the east than Jerusalem;—and many similar positions, which are fitted not to inform the inspector of a map, but to lead him into the grossest errors,—errors not to be tolerated. For these reasons, I have not deemed it prudent to annex a map here, constructed on the idea of Ptolemy. Whoever chooses may make it, or inspect the published tables of Ptolemy, although I would warn him not to place too much confidence in them; for in these printed tables, the very site of the places themselves is not exhibited with sufficient accuracy, as set down by Ptolemy; yet what is exhibited in the printed tables will be sufficient to demonstrate the truth of what I have said of the errors, which belong either to Ptolemy or his transcribers, and which cannot but render a map of that kind very imperfect. Still, however, Ptolemy is useful to us; because he has preserved the names of the cities and districts." This passage evinces the candour and discrimination of Reland. The third book contains an alphabetical index of all the places in the Holy Land mentioned in the sacred writings, ecclesiastical historians, or the ancient geographers. The basis of this index is the *Onomasticon* of Eusebius, translated into Latin by St Jerome, with several additions. This index occupies the whole of the second volume of Reland's work, which, taken *in cumulo*, is the best geographical account of the Holy Land that has yet been given; the only desideratum is an accurate knowledge of its modern geography, to correct and illustrate the ancient.

Anville.] Jean Baptiste Bourguignon d'Anville, was born at Paris in 1697. A map, which chance put into his hands, awakened his love for geography, at the age of 12. He began to sketch regions mentioned in the Roman historians, and directed all his studies to geography. He read the ancients only to ascertain the position of cities, and to fix the limits of the remote kingdoms, of which we find traces in history. Thus he early acquired an extensive knowledge of geography, became acquainted with the learned, and, at the age of 22, received the office of geographer to the king. He now began to examine and set in order the mass of his knowledge, and acquired a nice tact, resembling instinct, which was the result of ingenious and careful comparison. Almost every where his accuracy was rewarded by the discovery of truth. The highest estimation is due to him as a critic, and most of his opinions and conjectures have been verified by later inquiries on the spot. He has published 211 maps and plans, and 78 treatises. His atlas of ancient Egypt is the most deserving. His *Orbis Veteribus notus*, and his *Orbis Romanus*, ought to be in the hands of all who read ancient history. So, also, his maps of Gaul, Italy, and Greece. His maps of the same countries for the middle ages are of equal value. His maps of modern times are as good as could be formed of the materials in his possession. His map of Ancient Greece has been pronounced by Mr Hawkins—who travelled over all Greece, and who, from this circumstance, as well as his intimate acquaintance with the classical geography of that interesting region, was well qualified to speak on the point, to be most accurate. The same character applies to his map of Ancient Italy, constructed for Rollin's Roman History, especially that of Latium, which was so exact as to agree in almost every position with the trigonometrical survey of the Papal Dominions made by Father Boscovich. Palestine also and Egypt are accurately designed. His greatest errors lay in his maps of Asia; but these were unavoidable, from the deficiency of his materials. In his map of Asiatic Turkey, he has made the peninsula of Asia Minor too narrow by more than a degree of latitude; his map of Persia is meagre and incorrect; and that of India, is still worse. In his General Map of China, Chinesian Tartary, and Tibet, published in 1734, in Du Halde's Chinese Atlas, he reduced the distance between Pekin and Paris full $2\frac{1}{2}°$. The reason of this was his belief in the theory of Cassini, that the globe was a prolate spheroid, which induced him to shorten the degrees of longitude 1-30th each, in conformity to that theory. But this error disappeared in his subsequent maps, when the controversy was decided in favour of Newton. Like his predecessors, he also trusted too much to the oriental geographers, when, for want of observations, he was forced to use their tables. This extraordinary person died in 1782, at the advanced age of 85. He collected, during a period of almost 70 years spent in advancing the science to which he was so exclusively attached, more than 10,000 charts, of which more than 500 were manuscript. A translation of his Compendium of Ancient Geography into the English language accompanied with maps; and another of Roman Britain by Horsley, added by the translator, have been made in two vols. 8vo. A new edition of this work, with such alterations and improvements as the present advanced state of geographical science demands, would prove highly useful. Additional materials for such a work have been amply supplied, and nothing is needed but judgment and discrimination in the collection and selection of these for that purpose.[5]

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[5] "If the glory of reforming the inveterate errors of geography belongs in a peculiar manner to the French nation, the English at least had the merit of affording the most important elements to the laborious task. The discoveries of Newton did not terminate merely in the improvement of astronomy; they communicated, of course, an impulse to every branch of knowledge at all connected with that science. But his disciple Halley exerted a more immediate influence on geography. This extraordinary man, like D'Anville, distinguished himself at a very early age by his remarkable proficiency in his favourite study. At the age of 19 he published a direct method of finding the aphelia and eccentricity of the planets. He was aware that astronomy depended on an extensive knowledge of the position of the stars, and expressed his zealous desire to observe the stars in the southern hemisphere. Charles II. favoured his zeal; and in 1676, when Halley was only 20 years of age, he embarked for St Helena, on this important mission. He remained there a year; and, during that time, from the fault of the climate, he had fixed the places of only 350 stars. Had he chosen the Cape of Good Hope he would have found a clearer sky, as well as a more southern position. While Halley was at St Helena he observed a transit of Mercury across the sun's disc. This kind of phenomenon had already attracted the notice of Gassendi, Horrox, and other great astronomers; but Halley was the first to see all the important consequences that might be derived from it. He perceived that it might serve to determine the parallax of the sun, whence again might be calculated the dimensions of the solar system. The passage of Venus across the sun, which is of more rare occurrence, seemed to him at the same time to offer superior advantages. He weighed attentively and arranged the methods and consequences of these observations; and, in a memoir published in 1716, he announced to the learned world that the transit of Venus would afford the means of calculating the distance of the earth from the sun with greater precision than had been yet expected. The last time this phenomenon had taken place was in 1639, and it was not to recur till 1767; a time to which Halley, who was born in 1656, could not hope to have his life prolonged; he therefore exhorted other astronomers to attend to his admonitions. His counsel has been obeyed, and his expectations fulfilled. Besides the advantages directly accruing to geography from the perfection of astronomical science, the observation of the transit of Venus, so warmly and prophetically urged by Halley, has a peculiar interest, inasmuch as it gave rise to the first voyage of Cook, which contributed so much to dispel the obscurity which hung over our knowledge of the globe. But it is not merely by his remote influence on geographical exertions that Halley is entitled to our respectful notice; he figured prominently also as a navigator and hydrographer, and was among the first to lay the foundations of physical geography. His "Theory of Magnetic Variations," with his "History of the Monsoons, or the Periodical Trade Winds," having attracted the attention of the learned, the king gave him a vessel to examine the Atlantic, and to try how far his theory was conformable with experience. He embarked on this expedition in 1698, with a captain's commission; but as he had not been educated in the navy, he was viewed by his officers with jealousy and dislike, and the mutiny of his lieutenant compelled him to return soon after he had passed the line. He again put to sea, however, in 1699, and proceeded to the south till he met ice, in lat. 52°. In September, 1700, he returned, not having lost a man in the course of his voyage; a circumstance at that time of rare occurrence, and which can be attributed only to the care and humanity of the commander. His observations during both his voyages were found to be favourable to his theory of magnetic variations. Captain Halley was employed on his return to survey the Channel,

Strahlenberg.] In 1730, Strahlenberg's four sheet map of the Russian empire and Great Tartary, accompanied with an introduction, explanatory of the map, and a geographical description of the north-east parts of Europe and Asia, appeared. This is a work of great merit for the time, being the first that disclosed the regions of Siberia and Central Asia to the view of Europeans. Strahlenberg was one of those unfortunate Swedish captives at the battle of Pultowa, whom the Czar Peter sent to Siberia, where he remained during a space of 13 years. Being a man of information and curiosity, he applied, with as much diligence and assiduity as the state of his circumstances permitted, to gather materials for a map of the extensive regions therein represented. He travelled over the most of Siberia himself, and spared no pains to collect all the information that could be acquired from the Bucharian merchants, and such Tartars as frequented the fairs of Siberia, respecting the lofty, and till then unknown region of Central Asia. If the difficulties with which he had to struggle be considered, his work is an astonishing effort of perseverance and labour. One great excellence of his map and work, is a correction of numberless errors which had disfigured all former maps in the geographical nomenclature of the regions he describes. His greatest foible is his love of etymology. From the want of observations of longitude, his distances also are often wrong. He has shortened the continent of Asia, in the parallel of 66 N. latitude, near 36°, and places the eastern cape of Asia, in 51° N. lat., instead of 66° 2′ its real latitude. He makes the northern coast east of the Indigirka to wind south-east from 67° N. to 51° N. Cape Shelatskoi, the most north-east point of Siberia, is represented as a long narrow peninsula, jutting far into the sea in 65° N.; the peninsula of Kamschatka is taken for the land of Jesso; and the mouth of the Amoor is fixed in 45 N., instead of 53° N., its true latitude. But with the exception of these errors, and a few more, the map is excellent. He is the first geographer who has introduced the great range of the Beloor-Taugh, or the Western Imaus, and the elevated upland of Pamer, into the map of Asia, and made it the dividing line between Central Asia, and Khorasan, and Mawaralnahar; and also the first who introduced the lake of Aral into a map, and gave a correct delineation of the region between the rivers Oxus and Jaxartes, and the Western Turkistan. What errors have existed in this map respecting Siberia, were subsequently removed in the map of Kyrillow, published in 1746, and in those of the Imperial Academy of St Petersburg in 1776.

Du Halde, &c.] Modern geography was greatly enlarged by the appearance of Du Halde's History of China, and the atlas accompanying that work, in 1732. This collection consists of 40 maps, most of which are one sheet each, and embraces the whole of China, the peninsula of

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and was soon after sent on a mission to the Adriatic and to Vienna. This extraordinary man died in 1742, at the age of 86, retaining his faculties unclouded till the last. His long life was throughout devoted to the advancement of science: his habitual industry was equal to the activity of his mind. He was at once a strict reasoner and a bold speculator; he had no morbid fear of theories, nor was he ever weaned by his attachment to them from his love of truth. He knew from experience how much navigation depended on astronomy, and laboured hard to make the latter subservient to the purposes of the former. He attempted to improve the theory of lunar motions; and, though not perfectly successful, he did as much as could be expected from one man. What he commenced La Place has completed. These are the exertions for which navigation and geography are indebted to the genius of Halley; but his fame as an astronomer rests chiefly perhaps on his application of the Newtonian laws to the motions of comets, and on his calculations respecting the precession of the equinoxes.—*History of M. and I. Discovery*, iii. 10—12.

Corea, Mandshooria, Mongolia, Soongaria, and Little Bucharia, with Eastern and Western Thibet. The maps of China itself were drawn up with great care, and are all founded on celestial observations. The same may be said of those of Mandshooria and Mongolia; but equal confidence cannot be placed in the maps of Corea, Tibet, Soongaria, and Little Bucharia. The Jesuits were not permitted to visit the first of these countries. The map of Corea was drawn up from one in the palace of the king of Corea, and has been proved since, to be incorrect by captain Basil Hall, who, in sailing up the gulf of Lyantong to what he supposed the peninsula of Corea, discovered that what was called the western coast in that map was a large cluster of islands running parallel with it, and therefore, that the peninsula was represented 100 miles broader than the truth. The maps of Tibet were drawn up in 1717, from Tartar journals and itinerary measures, and such information as could be procured from the Lamas at Lassa. The chief deficiency is stated to be in the regions round the head of the Ganges; but excepting the error in mistaking the sources of the Sutlege and Indus for those of the Ganges—a mistake for which it is easy to account—the map of Tibet remains still unimpeached. It is a most valuable performance for the time in which it appeared; and which, in conjunction with the almost contemporaneous and equally valuable map of the learned and intelligent Strahlenberg, disclosed a new world to the curious and inquisitive mind. The maps of the best geographers, such as D'Anville, Anquetil du Perron, Tieffenthaler, Rennel, Arrowsmith, and Pinkerton, have given us but very little additional information. These geographers have all endeavoured to sink the reputation of the Lamas' map, and to represent it as a vague and incorrect performance, chiefly on account of its erroneous representation of the sources and course of the Ganges,—whilst they themselves had nothing better to offer, and committed the same, nay, greater errors respecting that celebrated stream; so that the best successive maps displayed successive ignorance, with much higher pretensions to accuracy.[6]

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[6] It is one great objection which Pinkerton makes to the authenticity of the Lamas' map, that most of the names of mountains, rivers, lakes, and places mentioned there, are unknown to the natives of Hindoostan, and which, therefore, cannot be recognized in any subsequent inquiries made by our countrymen in that region. This is a very trifling objection, as it goes on the hypothesis that the natives of Hindoostan and Thibet both speak and write the same language. Had this really been the case, the objection would have been insurmountable; but the very contrary is the fact, and, consequently, the places situated beyond the Heemalleh must have names different from those in use on the south of the same range, or on the side of Hindoostan. Nay, farther, it is not even the fact that the languages of northern Hindoostan are either spoken or written up to the crest of the dividing ridge. In many places on the Hindoostanee side, though still among the mountains, Tartarian idioms, as well as customs, prevail to a great extent; many of the mountain tribes are of mongrel extraction, and speak dialects unknown to the inhabitants of the plains. It is no wonder, therefore, that the names of many places, even on the south side of Heemalleh, should not be known, under these designations, to the people of the plains, or to the inhabitants of Calcutta. The great range of snowy mountains that divides Hindoostan, throughout the whole of its northern side, from Thibet, is called, in Sanscrit, Heemalleh. This name does not occur in the Lamas' map; and why? Because the Thibetians neither write nor speak Sanscrit. It would be absurd, therefore, to expect to find such an appellation in the Lamas' map. It is quite sufficient, if we cannot identify the name, to find the thing. Rennel expected to find both name and thing in the Lamas' map; but, not finding the name as he expected, he happened to cast his eyes on the range that intervened between Tassisudon and Paridrong, and found it called Rimola in the Lamas' map. What is his conclusion? Is it that Rimola is the Thibetian appellation of the same range which, in Hindoostan, is called, by the Sanscrit appellation, Heemalleh? No. He draws an inference the very reverse of this, and will have it that Rimola is a press-error in the map, and that Heemalleh ought to be substituted in its place, because, in his opinion, the Lamas really wrote it Heemalleh, and could not

De Guignes, &c.] The labours of the elder *De Guignes* and *De Mailla* threw farther light on the geography of Asia: the former by tracing the migrations of the Huns from Mongolia till they came in sight of the Roman historians,—and the latter by his maps of ancient and modern China, in the 'General History of China,' commenced in 1748, and finished in 11 vols. 4to, in 1780. A further addition was made to geographical knowledge by the conquest of the Eluth Kalmucks, in 1759 and 1761, when a map of the conquered regions of Soongaria and Little Bucharia was made, under the guidance of three Jesuits, who accompanied the expedition. Tables of longitudes and latitudes, taken in these regions, are given in the first volume of the Chinese Memoirs.

Buache, &c.] Emulous of the fame of D'Anville, a number of geographers successively appeared in France; as Buache, Barbie-de-Bocage, Gosselin, and Malte Brun, a Dane; but none of them can be justly said to have inherited either his fame or his merits. *Buache,* in 1761, presented to the Royal Academy at Paris a set of maps, constructed on a new plan. Instead of political boundaries, which are constantly fluctuating, he adopted what he calls natural boundaries, as chains of mountains, courses of rivers, seas, and gulfs. Now, though it be undoubtedly true that these ought to constitute the essential parts of all maps, yet it is in many cases impossible to fix natural and immutable limits; for we must previously know all the mountain-chains of the globe, both in respect of direction, extent, breadth, and elevation before this can be accomplished. But many of these ranges we do not know in any of the particulars above stated; and how, therefore, can we delineate their line of course on a map? The science of orography is yet but imperfectly known. It would require an intimate and profound acquaintance with the interior of the globe, in order to enable us to fix with precision the line of direction of

write it otherwise, because the Hindoos do so. He would have Himola substituted for Rimola. Rimola is, in fact, no press-error, as can be proved from the subsidiary fact furnished by Captain Hodgson, that enlightened and laborious surveyor of the Heemalleh mountains. In his printed list of the elevations of that astonishing range, with their latitudes, longitudes, and the districts to which they belong, Rimola is mentioned as one of these last. The two lofty measuring stations of Chandra Badani, and Surkanda, are placed by him in a district called Rimola. If Pinkerton had been at the same pains to institute as minute a comparison between the nomenclature of the Lamas' map, and what subsequent information has been since gleaned respecting Thibet, as in identifying the Scythians, Goths, and Belgæ, and showing them to be quite a distinct race from the Celts, and that we, in this northern part of our island, are of Gothic, not of Celtic extraction, he would have found as near an agreement as could have been expected from our imperfect knowledge of that country, respecting the names, of places, such as Ladauk, Chaprong, Lanken, Mapana, Kerton, Takla, Lassa, Putala, Chanmanning, Kiangse, Jieckse, or Jickse, Rodauk, Tinkya, and Rimola. The mansion of the great Lama is called Putala in their map. The reason of this appellation is, that the great Lama being considered as Boodh himself regenerated, and preserving his identity through all the successive transmigrations he is supposed to make, the place of his abode is considered as the palace of Boodh himself. Now, *Putala* is a Sanscrit appellation, compounded of *Boodh* and *alaya*, thus making Boodhalaya 'the mansion,' or 'dwelling-place of Boodh.[*] This place is not to be confounded with Lassa, the capital of Thibet, this latter lying several miles to the S.W. of the former. The *Uchu Chumularee* of the Lamas' map was recognized by Mr Turner, in his journey to Teeshooloombo, as also the place called *Paridsong* in the same map. The existence of Chaprong was clearly ascertained, from the concurrent testimony of the Bhoteas on the frontiers, in answer to inquiries made by our countrymen, as by Lieutenant Gerard, at Shipke, and by Messrs Fraser, Hodgson, and Herbert, in the vicinity of Gangoutri, *Chaprong* is the Ciapharanga of Father Andrada, who visited both this place, and Rodauk, in 1624; and a short abstract of which may be seen in the 'China Illustrata' of that very learned Jesuit, Father Kircher, and much more fully in the third volume of Mr Murray's History of the Progress of Discoveries in Asia. It is also to be remarked that two languages, at least, exist in Thibet—one used by the natives, and another both spoken and written by the Lamas, and both different from those spoken in India.

the grand chains of the globe, with their innumerable ramifications. It is but of late that mountains have attracted the eye of science, and for this we are indebted not so much to geographers as to geologists; and we must wait till the interior of Asia and Africa be explored, by persons qualified both in respect of geography and geology, before we can presume to make mountain ranges, natural boundaries. Buache himself proceeded on a capital mistake in supposing that all the great chains of the globe ran in a longitudinal direction,—that they are continued from continent to continent under the ocean,—and that their greatest elevations are under the equator. The fact is, they run as much in a meridional direction as in a longitudinal direction; as the Andes, which run south-east and north-west,—the Rocky Mountains, south-east and north-west,—the Apalachians south-west and north-east,—the Himalaya north-west and south-east,—and the Beloor-Taugh south-west and north-east. Another fact, in opposition to Buache, is, that the most elevated tracts of the globe are without the tropics, instead of being under the line; for most of the great rivers fall into the sea towards the poles or under the line, and the Himalaya range, which is entirely to the north of the tropic of Cancer, is higher far than the equatorial Andes.—*Barbie de Bocage* has attempted a complete view of the geography of Ancient Greece, in his Atlas of classical maps appended to the travels of Anacharsis, accompanied with a memoir. But in this he has failed, for want of the actual knowledge of its modern geography.—*Gosselin* has given an ingenious analysis of the geography of the Greeks and Romans, interspersed with much that is merely conjectural, and much that is erroneous. In a learned memoir prefixed to the late French edition of the geography of Strabo, he has endeavoured to illustrate the itinerary measures of the ancients. About the middle of the last century, *Busching* of Gottingen published a circumstantial description of Europe, in six vols. 4to, which was translated from German into English. He confined himself wholly to modern geography, and introduced a new branch into it, called statistics. This prolix work is the basis of the popular geographical grammar of Guthrie, which has gone through so many editions. Since the time of Busching, other eminent geographers have appeared in Germany, as the learned *Mannert*, who has illustrated at great length the geography of the Greeks and Romans; *Voss*, who had treated of that of the Greek and Roman poets; whilst *Wahl* has attempted to investigate that of the Lower and Middle Asia.

British Geographers.] With the exception of *General Roy*, no geographer of any eminence appeared in our country till *Rennel*. It is rather a humiliating circumstance, that whilst so much was done in France and Germany towards the promotion of geographical science, by those eminent persons whose names and merits have been already mentioned, so little should have been done in this department of science in Great Britain. But it must be remembered, that in France geographical science has always been patronized by government,—whilst in this country, any who shall undertake a system of universal geography, must, in order to ensure its reception, and remunerate his labour, accommodate his work to the taste of the public. Like other sciences, as geology, botany, and mineralogy, pure geography is a dry subject to the most of readers: to use the remark of an ancient geographer, Pomponius Mela, such a work is filled with difficulties, and susceptible of no elegance of style,—"*Orbis situm, dicere aggredior, impeditum opus et facundiæ minime capax.*" In order to relieve this, it must be mixed up with other ingredients, which, however many, and however remote, are absolutely necessary to attract and secure readers. Hence geography, strictly so called, occupies but a very small portion of our most esteemed geographical systems; and it is the reproach of Great Britain by foreigners, that she is still without a geographical system that deserves the name. But while it is indeed true that our country has not yet produced a Bochart, or a D'Anville; yet the successive labours of a *Rennel*, a *Pinkerton*, a *Vincent*, a *Macdonald Kinnier*, and an *Arrowsmith*, have gone far to wipe away the reproach; for though their labours have been confined to the geography of particular portions of the terrestrial surface,—as India and North Africa, by Rennel,—illustrations of the geography of Herodotus and Xenophon, by the same,—the voyage of Nearchus and Periplus of the Erythræan sea, by Vincent,—Persia, by Kinnier,—Aderbijan, by Morier,—yet it is perfectly clear, that it is not for want of materials, nor of persons qualified to gather and embody them, but for want of a taste in the public, corresponding to that of an author who should attempt it. Till an alteration in public taste take place,—till the public become so enlightened to the necessity and importance of pure geographical description and discussion in order to attain a proper knowledge of the subject,—no system, purely scientific and descriptive, which confines its attention chiefly to the surface of the globe, and its grand distinctive features, can succeed.

Thus we have brought down the history of geography from its earliest dawnings to its present degree of perfection; and our readers may now judge how far we excel the ancients in our knowledge of the form, motion, and magnitude of the earth,—in the methods of ascertaining latitudes and longitudes,—and in our actual greater knowledge of its surface. Though the ancients could measure heights geometrically, yet from want of knowledge of terrestrial refraction, and the laws by which it is regulated, they could never take them with that precision which is done in modern times; and besides, we have no account of their base-lines, to enable us to determine from what level they took the elevations. They were ignorant of the use of barometers in determining the pressure of the atmosphere, or how that pressure is modified by heat or moisture; for they had no thermometers to determine the one, nor hygrometers to ascertain the other. For want of these they were also unable to determine the amount of refraction, as it is regulated by density, heat, and moisture. As, with the exception of Pythagoras, and a few others, they were ignorant of the diurnal and annual revolutions of the globe, so also were they ignorant of the laws which regulate these, resulting from the sublime doctrine of gravitation,—that mysterious power, which connects the most distant points of space, and the most remote periods of duration. From all these deficiencies in science, in instruments, and methods of observations, what they did know of the geography and surface they knew but imperfectly, and many things respecting these they knew not at all. Their knowledge of the terrestrial surface of the globe, so far as respects extent, was very limited, as has been already shown. Not above one-fourth of the Asiatic continent was known to them, nor above one-third of Africa. Of the north of Europe they knew nothing beyond the 60th degree, unless perhaps Northern Thule be excepted; and the American continent was utterly unknown to them. From their very limited knowledge of botany,—their almost total ignorance of chemistry,—their deficiencies in mineralogy and natural history,—their ignorance of orography and hypsometry, of meteorology, &c. all of which the present advanced state of human knowledge have rendered subservient to geographical description, they were unable to give full, accurate, and enlightened views of the physical geography, and natural productions, of any country. So extended now is the modern knowledge of the globe, that with the exception of Central Asia, the Indo-Chinese territories, and the interior of Africa, there is scarce a region, country, or island, but has been visited, made known, and their place assigned in maps; and no sooner has a traveller filled up a void, or rectified an error, than the map of the place or region he has visited becomes more full and accurate. Even with such knowledge as the ancients possessed of the surface, they were unable to give a just representation of that surface, from their ignorance of spherical projection. Yet with all our increased knowledge of the terrestrial surface, still much remains to be done. Geography is a practical science, and cannot therefore proceed with very rapid pace, for it requires a vast number of operations and observations to render it perfect. Even in those countries with which we are best acquainted, much still remains to be ascertained, before their geography can justly be called complete. We are much less deficient and inaccurate in our knowledge of the natural history of the globe, than in its geography, strictly so called; that is, in the extent, direction, latitudes and longitudes, direction and elevation of mountains, rise, course, and termination of rivers, &c.

The ignorance of the ancients in nautical science rendered them still more ignorant of the hydrography, than of the geography of the globe. We, on the contrary, are better and more extensively acquainted with the former than the latter, from our improvements in that very science of which the ancients were comparatively ignorant. The coasts of every continent, and almost every island, have been examined and made known. There is hardly a bay, gulf, or inland sea, but has been explored; whereas, the hydrography of the ancients was confined to the Mediterranean sea and its gulfs, and part of the Atlantic; for with the Red sea, Persian gulf, and Indian ocean, they were but imperfectly acquainted, and were utterly ignorant of the existence of the Great Pacific ocean. The same ignorance both as to the geography and hydrography of the globe prevailed amongst the oriental geographers; for if they were more and better acquainted with their own regions and their own seas than were the Greeks and Romans, they, on the other hand, were equally ignorant of the geography of the Greek and Roman world, and their ignorance in other sciences pertaining to geography was the same.

Physical geography is a department of science comparatively modern, since in 1737 philosophers had not even determined the figure of the earth. Buache first observed the relation which subsists between mountain-chains and the rivers derived from them, though he gave too much extension to his system of submarine ridges. Bergmann, in his Physical Description of the Earth, first generalized the position that the steepest side of mountains is on the west, or south;—on the west, when the mountains run from north to south, and on the south when they run from east to west: but Kirwan showed that this principle is susceptible of various modifications. Father Pini, in his memoir on Mont St Gothard, endeavoured to impart precision to the language of geography and geology; and in the same department Messrs Bourcet and d'Arcon stand pre-eminently distinguished. Still more recently, the barometer invented by Gay-Lussac, Laplace's general formula for estimating heights by means of that instrument, the determination of the co-efficient of the formula by Ramond, confirmed by the direct experiments of Biot and Arago, and the hypsometrical tables successively improved by Biot and Oltmanns, have reduced the barometrical measurements of heights to nearly trigonometrical precision.

Thus we have given a comparative view of the geographical knowledge of the ancients and moderns. We have said nothing of Chinese or Indian geography, as these nations knew and still know very little about the subject; and what they did or do know is as little worth telling as it is little worth reading.

APPENDIX

ASTRONOMICAL, MATHEMATICAL, GEOGRAPHICAL, AND CHRONOLOGICAL TABLES,

SELECTED FROM THE BEST AUTHORITIES,

AND REVISED AND CORRECTED

BY THE EDITOR.

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TABLE OF LATITUDES AND LONGITUDES,

THE LATTER TAKEN FROM THE MERIDIAN OF GREENWICH OBSERVATORY.

Places and Countries.	Latitudes.	Longitudes.	Authorities.
Abancay, Peru	13° 31' 30" S	72° 25' 45" W	Alcedo
St Abbs Head, Scotland	55 54 56 N	2 8 20 W	Mudge
Aberdeen, Do.	57 9 0 N	2 8 0 W	Mackay
Abo, Russia	60 26 58 N	21 17 15 E	Conn-des Tems
Aboukir, Egypt	31 20 35 N	30 6 15 E	Gauttier
Acapulco, Mexico	16 50 29 N	99 53 47 W	Basil Hall
Acheen, Sumatra	5 36 0 N	95 19 0 E	Riddle
Achill Head, Ireland	54 7 0 N	9 45 0 W	Ducom
Acre, St Jean de, Palestine	32 54 35 N	35 6 20 E	Gauttier
Adayes, Mexico	32 9 0 N	93 34 45 W	Alcedo
Adam's Peak, Ceylon	5 47 0 N	80 32 0 E	Hamilton
Adana, Asiatic Turkey	36 59 0 N	35 10 45 E	Jaubert
Adam's Point, N. America	46 15 0 N	123 50 45 W	Lewis & Clark
Adam's Fort, Mississippi	31 1 0 N	91 30 15 W	Terrer
Adanson Cape, Van Diemen	40 29 12 S	115 9 11 E	Baudin
Adramiti, Asiatic Turkey	39 32 0 N	26 48 0 E	Ducom
Adrianople, Turkey	41 45 0 N	26 35 15 E	
Adventure Bay, Van Diemen	43 21 29 S	147 43 55 E	Entrecastreaux
Do. do. South Georgia	54 2 48 S	42 48 34 E	Waddel
Agra, British India	27 11 0 S	77 53 0 E	Hamilton
Ailsa Rock, Firth of Clyde	55 18 0 N	5 8 0 W	Edin. Gazetteer
Akalzikhe, Asiatic Russia	41 55 0 N	43 5 15 E	Beauchamp
Albany, State of New York	42 38 38 N	73 44 50 W	Bowditch
Aleppo, Syria	36 11 25 N	37 10 15 E	Conn-des Tems
Alexandretta, Do.	36 35 27 N	36 10 0 E	Do. do.
Alexandria, Egypt	31 13 5 N	29 52 50 E	Daussy
Algiers, Barbary	36 47 20 N	3 4 55 E	Gauttier
Algeziras, Spain	36 8 0 N	5 26 12 W	Conn-des Tems
Alicant, Do.	38 19 20 N	0 28 56 W	Captain Smith
All Saints Bay, Brazil, or Bahia	12 59 22 S	38 32 39 W	Captain Sabine
Amasich, Asiatic Turkey	40 33 0 N	36 13 15 E	Cor. Astronom.
Amboyna Island, point S. W. Moluccas	3 47 30 S	127 53 25 E	Fabre
Do. Fort Victoria, Do.	3 41 41 S	127 10 20 E	Duperry
Amsterdam, Holland	52 22 17 N	4 53 20 E	Krayenhoff
Do Island, (Tongataboo) Friendly Isles	21 9 0 S	174 16 0 W	
Andrews, St, Scotland	56 21 0 N	2 49 0 W	
Antigua, (Fort Hamilton) West Indies	17 4 30 N	61 57 45 W	Borda
Antwerp, Belgium	51 13 14 N	4 24 10 E	Krayenhoff
Antakia, (Antioch) Syria	36 12 30 N	36 22 45 E	Jaubert
Antioquia, Colombia	6 36 0 N	76 2 53 W	Restrepos
Antisana, Farm of, Quito	0 32 52 S		Humboldt
Anthony Port, Jamaica	18 15 40 N	76 23 0 W	Ducom
Antrobus Cape, Baffin's Bay	71 57 0 N	71 50 0 W	Captain Ross
Ararat Mount, Armenia	39 45 0 N	45 0 0 E	Morier
Archangel, European Russia	64 31 40 N	40 43 0 E	Von Dessen
Arica, Peru	18 28 35 S	70 24 12 W	Basil Hall
Arequipa, (Morro de) Peru	16 30 0 S	73 11 0 W	Malaspina
Arran Island, N. point, Ireland	53 19 0 N	10 2 0 W	Riddle
Ascension Island, W. Atlantic	7 55 56 S	14 23 35 W	Captain Sabine
Ashkelon, ruins of, Syria	31 39 0 S	34 42 55 E	Gauttier
Assassins, Bay of, New Zealand	40 49 0 S	176 28 15 E	
Athens, Greece, Temple of Minerva	37 58 1 N	23 46 14 E	Conn-des Tems
Augustine, St, East Florida	29 58 0 N	81 40 0 W	Edin. Gazetteer
Ava Burmah, Asia	21 51 0 N	95 58 0 E	Hamilton
Avignon, France	43 57 8 N	4 48 30 E	Conn-des Tems
Attock, on the Indus	33 57 0 N	71 57 0 E	Hamilton
Augsburgh, Bavaria	48 21 46 N	10 55 2 E	Conn-des Tems
Aulona, Albania, Turkey	40 27 15 N	19 26 20 E	Do. do.
Aurungabad, India, Deccan	19 45 0 N	76 3 0 E	Cor. Astron.
Axusco, Cerro de, Mexico	19 15 27 N	99 12 30 W	Humboldt
Ayr, Scotland	55 27 0 N	4 26 0 W	Ducom
Aylah, (Elath) Arabia	29 16 0 N	34 33 15 E	

Places and Countries.	Latitudes.	Longitudes.	Authorities.
Azagues, Colombia	2° 41 5 N	79° 6 30 W	Oltmanns
Azoff, Russia	47 20 0 N	38 19 15	
Baba Cape, S.W. point of Asia Minor	39 10 45 N	25 51 40	Gauttier.
Do. do. Anatolia	41 20 51 N	31 26 23	Do.
Babel Isles, (centre) New Holland	40 0 30 S	148 17 0	Capt. Flinders
Babel-Mandeb, Arabia	12 40 0 N	43 42 0	Purdy
Do. do. do. (isle of Perim)	12 35 30 N	43 8 0	Do.
Bakou, Schirvan, Russia	40 23 50 N	49 39 15	Jaubert
Do. do. do.	42 22 0 N	51 7 0	Edin Gazetteer
Do. do. do.	39 50 0 N	52 25 15	Cheval-Gamba
Do. do. do.	40 10 0 N	49 10 15	Dr Ramsay
Bagdad, Turkey	44 45 45 E	33 19 40	Mr Rich
Baffin, isles of, North America	74 41 0 N	62 5 30 W	Captain Ross
Baibourd, Turkey in Asia	40 10 0 N	40 30 15 E	Jaubert
Bailli Cape, Van Diemen	42 22 0 S	148 7 0 E	Krusenstiern
Baker Point, N.W. coast of N. America	56 22 0 N	132 23 45 W	Vancouver
Baker Mount, do. do.	48 39 0 N	121 40 0 W	Do.
Do. do. do. do.	46 19 0 N	123 43 0 W	Do.
Balackawa, Crimea (port)	44 28 55 N	33 34 35 E	Gauttier.
Balasore, British India	21 30 0 N	87 1 30 E	Ducom
	21 32 0 N	86 56 0 E	Hamilton
Balbec, Syria	33 25 0 N	37 20 15 E	Coulier
Do. do.	33 58 0 N	36 22 15 E	Diction. Geog.
Do. do.	34 1 0 N	36 11 0 E	Edin. Gazetteer
Baldivia, Chili	39 53 20 S	73 33 21 W	Mackay
Do. (Fort San Carlos)	39 51 0 S	73 33 45 W	Malaspina
Bale, Switzerland	47 33 34 N	7 35 27 E	Conn-des Tems
Balfroosh, Persia	36 33 15 N	52 44 56 E	Fraser
Balize, Yucatan, Mexico	17 36 0 N	88 22 0 W	Duverney
Ballyshannon, Ireland	54 31 0 N	8 24 45 W	Malham
Balta Sound, Shetland	60 45 0 N		Biot
Baltimore, United States	39 23 0 N	76 39 0 W	Bowditch
Do. Ireland	51 27 0 N	9 26 0 W	Riddle
Bamberg, Germany	49 57 0 N	10 57 15 E	Coulier
Banff, Scotland	57 41 0 N	2 31 0 W	Riddle
Banbury, England	52 5 0 N	1 23 47 W	Jamieson
Banda Island, Indian Archipelago	4 31 0 S	130 0 0 E	Ducom
Bang Cape, Persian Gulf	29 48 0 N	50 3 0 E	Purdy
Bangalore, Indian Peninsula	12 57 0 N	77 38 0 E	Hamilton
Bangor, Wales	53 12 0 N	4 17 47 W	Jamieson
Banialuca, Turkey	44 20 0 N	17 40 0 E	Coulier
Banka isle, Moluccas	1 52 0 N	125 0 0 E	Ducom
Bank's Island, N.W. C. Amer. N. point	53 39 30 N	130 13 0 W	Vancouver
Bantam, (city) Java	6 7 0 S	106 13 30 E	Ducom
Bantry (bay) Ireland	51 36 0 N	10 4 0 W	Malham
Barbadoes, (N. point) Antilles	13 19 0 N	59 44 0 W	Ducom
Do. S. do. do.	13 2 0 N	59 38 0 W	Do.
Barbuda, do. N. point do.	17 50 50 N	62 0 0 W	Do.
Barcelona, Spain (city)	41 22 38 N	2 10 44 E	Mechain
Barcelona, New, Colombia	10 13 15 N	64 48 5 W	Fidalgo
Barcelore, British India	13 37 0 N	74 47 0 E	Hamilton
Bardistan Cape, Persian Gulf	27 45 0 N	50 20 15 E	D'Apres
Bardsay, Wales	52 44 0 N	4 39 0 W	Ducom
Bardt, (port) Prussia	54 20 0 N	8 39 45 E	Malham
Bariquisemeto, Colombia	9 40 0 N	67 47 45 W	Dic. Geograph.
Barka, (road) Omman		57 54 30 E	I. des Voyages
Barnevelts islands, Tierra del Fuego	55 48 16 S	66 39 0 W	Weddel
Barnard mountains, Baffin's Bay	75 55 0 N	81 0 0 W	Captain Ross
Barrow's Bay, do. do.	73 40 0 N	83 45 0 W	Do.
Bass Rock, Scotland	56 4 53 N	2 37 47 W	Purdy
Batavia, Java	6 9 1 S	106 51 15 E	Flinders
Bayonne, France	43 29 15 N	1 28 26 W	Conn-des Tems
Bayrout, Syria	33 49 45 N	35 28 0 E	Gauttier
Batoum, Asiatic Turkey	41 38 40 N	41 38 55 E	Do.
Bath, England	51 22 30 N	2 21 15 W	Conn-des Tems
Belfast, Ireland	54 35 0 N	5 57 0 W	Ducom
Bell Rock, Scotland	56 26 50 N	2 22 15 W	Purdy
Bell Sound, (mouth) Spitsbergen	77 35 0 N	13 42 0 E	Scoresby
Bencoolen, Sumatra	3 49 0 S	102 0 15 E	Riddle
Bergen, Norway	60 24 0 N	5 20 15 E	Wibe
Berlin, Prussia	52 31 41 N	13 22 15 E	Conn-des Tems
Berwick, Great Britain	55 46 21 N	1 59 41 W	Mudge

Places and Countries.	Latitudes.	Longitudes.	Authorities.
Betlis, Koordistaun	38° 31′ 30″ N	42° 30′ 15″ E	Jaubert
Bilboa, Spain, Bay of Biscay	43 16 13 N	2 43 15 W	Cor. Astronom.
Blanco Cape, Africa	20 46 55 N	17 1 45 W	Roussin
Do. do. Patagonia	47 16 0 S	66 3 15 W	Malaspina
Bodega port, N.W. coast of America	38 21 0 N	122 36 45 W	Vancouver
Bogota, Colombia	4 35 48 N	74 12 23 W	Humboldt
Bojador Cape, North Africa	26 10 0 N	14 30 45 W	Borda
Bolcheretz, Kamtschatka	52 54 30 N	157 19 15 E	Vsevolojsky
Boli, Asiatic Turkey	40 35 0 N	31 19 15 E	Cor. Astronom.
Bombay, British India	18 56 45 N	72 56 15 E	Hamilton
Bona Cape, Barbary	37 4 45 N	11 4 15 E	Gauttier
Borneo City, Isle of Do.	4 55 0 N	114 55 0 E	Riddle
Bornou, North Africa	12 50 0 N	13 35 30 E	Diction. Geog.
Boston, United States	42 20 0 N	70 54 0 W	Bowditch
Botany Bay, New Holland	34 0 0 S	151 14 0 E	Riddle
Bourbon (I.), St Dennis	20 51 30 S	55 30 30 E	Freycinet
Boutin Point, Isle of Saghalion	51 52 0 N	141 48 15 E	Conn-des Tems
Bowen Cape (Peak), New Holland	14 34 0 S	144 35 40 E	King
Bowen Port, North America	73 13 39 N	88 54 49 W	Parry
Do. Cape, Baffin's Bay	72 25 0 N	74 40 0 W	Ross
Bourdeaux, France	44 50 14 N	0 33 59 W	Conn-des Tems
Bremen, Germany	53 4 38 N	8 28 0 E	Do.
Bressey Sound, Shetland Isles, Scotland	60 9 0 N	0 47 0 W	Malham
Brest, Brittany, France	48 23 14 N	4 28 45 W	Conn-des Tems
Briancon, Hautes Alps	44 53 50 N	6 38 57 E	Zach's Journal
Bridgeman Isle, New Shetland	62 4 0 S	56 57 30 W	Weddell
Bridgetown, Barbadoes	13 5 30 N	59 40 0 W	Conn-des Tems
Brighton, England	50 49 30 N	0 12 0 W	Mudge
Brill, Holland	51 54 11 N	4 9 51 E	Krayenhoff
Do. England	51 49 10 N	1 2 46 W	Mudge
Brisbane Cape, Greenland	74 16 0 N	20 30 0 W	Scoresby
Do. River, mouth, New Holland	27 25 0 S	E	King
Bristol, England (Cathedral)	51 27 6 N	2 35 29 W	Mudge
Brodie's Bay, Baffin's Bay	68 0 0 N	63 5 0 W	Ross
Brodrick Cape, Jan Mayen Isle	70 59 0 N	7 50 0 W	Scoresby
Bromby, England	51 24 18 N	0 0 52 E	Mudge
Broughton Cape, Baffin's Bay	67 47 0 N	63 30 0 W	Ross
Brown Cape, Greenland	71 48 0 N	22 54 0 W	Scoresby
Do. Isles, Baffin's Bay	75 17 0 N	59 50 0 W	Ross
Do. Point, Columbia river north-west coast of America	47 1 0 N	123 53 0 W	Vancouver
Brace Bay, Baffin's Bay	70 28 0 N	67 32 0 W	Ross
Brulos Cape, Egypt	31 36 0 N	31 27 0 E	Ducom
Brunswick House, Upper Canada	50 15 0 N	82 55 45 W	Alcedo
Broussa, Anatolia	39 52 0 N	29 0 15 E	Coulier
Brussels, Netherlands	50 50 59 N	4 22 15 E	Conn-des Tems
Buache Cape, Greenland	71 48 0 N	23 38 0 W	Scoresby
Do. Do. Van Diemen	40 35 40 S	145 7 45 E	Baudin
Bucarelli Port, north-west coast of America	55 12 0 N	133 25 0 W	Ducom
Buchan, Ness, Scotland	57 29 15 N	1 57 0 W	Downie
Bucharest, Wallachia	44 26 45 N	26 8 15 E	Conn-des Tems
Buckingham, England	51 59 53 N	1 59 5 W	Mudge
Buenos Ayres, South America	34 37 26 S	58 31 0 W	Conn-des Tems
Buffaloe Lake, Fort, New South Wales	55 53 0 N	108 51 10 W	Franklin
Burg Head, Scotland	57 43 0 N	3 20 0 W	Riddle
Burgos, Old Castile, Spain	42 20 59 N	3 38 45 W	Conn-des Tems
Burntisland, Scotland	56 8 0 N	3 4 45 W	Malham
Busheer, Persia	28 59 30 N	50 50 0 E	Fraser
Bhurtpore, India	28 15 0 N	81 1 0 E	Hamilton
Burrow Head, Scotland	54 40 0 N	4 24 0 W	Ducom
Button, Ness, Light-house, do.	56 28 0 N	2 54 15 W	Purdy
Byam Martin, Greenland (Cape)	73 33 0 N	77 10 0 W	Ross
Bussorah, on the Shat-al-Arab	30 30 0 N	47 33 0 E	Purdy
Caubul, Afghanistaun	34 10 0 N	69 15 0 E	Macartney
Cacamo Isle, east point, Caramania	36 10 28 N	29 54 25 E	Gauttier
Cachao, Tonking	22 36 0 N	105 15 15 E	Coulier
Cadiz (observatory), Spain	36 32 0 N	6 17 22 W	Conn-des Tems
Caffa, Crimea, Russia	45 1 37 N	35 23 28 E	Gauttier
Cagliari, Sardinia	39 12 52 N	9 6 41 E	Do.
Cairo, Egypt	30 2 21 N	31 18 45 E	Nouet
Caithness Point, Scotland	58 30 0 N	3 9 15 W	Riddle

Places and Countries.	Latitudes.	Longitudes.	Authorities.
Calabar river, Benin	4° 20′ 0″ N	6° 42′ 0″ E	Ducom
Calabozo, Colombia	8 56 8 N	67 50 30 W	Humboldt
Calais, France	50 57 0 N	1 41 46 E	Conn-des Tems
Calcutta, Bengal, India	22 33 0 N	88 23 39 E	Goldingham
Caledon Cape, Baffin's Bay	76 16 0 N	79 22 15 W	Ross
Calf of Man, Light-house	54 5 0 N	4 46 0 W	Maritime Ann.
Calicut, Malabar, coast of	11 15 0 N	76 12 0 E	Hamilton
Callao, port of Lima, Peru	12 3 45 S	77 6 10 W 77 2 12 W	B. Hall, lu. dis. Do. by time ke.
Calpee, British India	26 7 15 N	80 10 0 E	Cor. Astronom.
Camarones, river, gulf of Biafra	3 15 0 N	9 0 0 E	Riddle
Cambay, Guzurat, India	22 21 0 N	72 48 0 E	Hamilton
Camboja river, W. entrance, Coch. China	9 35 0 N	106 0 0 E	Purdy
Do. city, Do. Do.	12 50 0 N	103 40 15 E	D'Ap. Nep. Or.
Do. river, Point, Do. Do.	8 40 0 N	104 55 0 E	Ducom
Cambridge, England	52 12 36 N	0 7 37 E	Mudge
Do. New, United States	42 23 28 N	71 3 0 W	Bowditch
Cameron Cape, Mexico	16 2 0 N	85 10 0 W	Ducom
Campbell Point, north-west coast of Am.	64 8 0 N	149 38 0 W	Do.
... Bay, Greenland	71 18 0 N	21 50 0 W	Scoresby
... Isle, N.W. rock, Great Pacific Ocean	52 36 0 S	169 13 35 E	Freycinet
... Islet, S.W. do. do.	52 32 30 S	169 21 45 E	Do.
... Cape, New Zealand	41 34 0 S	177 56 0 E	Ducom
... Cape, Baffin's Bay	64 6 0 N	65 42 0 W	Ross
... Mount, Kerguelen,	49 12 0 S	70 20 15 E	Purdy
Campbeltown, Scotland	55 27 0 N	5 [illegible] 46 W	Maltham
Campeachy (city), Mexico	19 51 0 N	90 28 15 W	Mackellar
Canary island, north-east point, Canaries	28 13 0 N	15 21 45 W	Borda
Candahar, Afghanistaun	32 20 0 N	66 26 0 E	Allen
Candia island, W. Mount, (Crete)	35 22 18 N	21 8 15 E	Gauttier
Do. do. E. do. do.	35 6 46 N	25 30 33 E	Do.
Do. city, do.	35 21 0 N	25 8 0 E	Do.
Canea (Crete). Turkey	35 28 40 N	24 0 25 E	Do.
Canso Cape, Nova Scotia	45 18 10 N	60 56 40 W	Des Barres
Do. Port, Do. Do.	45 18 0 N	60 56 0 W	Blunt
Cantin Cape, Africa	32 33 0 N	9 15 0 W	Riddle
Canton, city, China	23 7 10 N	113 20 15 E	Krusensteirn
Canterbury, England	51 18 26 N	1 4 53 E	Mudge
Canzir Cape, Syria	36 16 0 N	35 49 30 E	Gautier
Capricorn Cape, New Holland	23 30 0 S	151 16 15 E	Krusensteirn
Do. Do. Do.	23 28 30 S	151 5 0 E	Flinders
Caraccas, Colombia	10 30 50 N	67 4 45 W	Humboldt
... Silla de	10 31 15 N	67 1 23 W	Do.
Carlisle, England	54 56 0 N	3 25 47 W	Jamieson
Carlton House, New South Wales	52 50 17 N	106 12 41 W	Franklin
Carmel Cape, Palestine	32 51 10 N	34 59 35 E	Gauttier
Carnac (ancient Thebes), Egypt	25 42 7 N	32 39 39 E	Nouet
Carrickfergus, Ireland	54 43 0 N	5 49 30 W	Ducom
Carthage Cape, summit, Barbary	36 51 30 N	5 10 15 W	Gauttier
Carthage, (the port)	35 52 0 N	5 19 15 W	Galiano
Carthagena, Colombia	10 25 20 N	75 29 45 W	Humboldt
... Spain	37 35 50 N	1 0 21 W	Coun-des Tems
Casas Grandes, Mexico	33 30 0 N		Oltmanns
Casan, European Russia	55 43 0 N	49 15 0 E	Billings
Casbin, Persia	36 13 30 N	49 23 15 E	Jaubert
Castellorizo, Caramania	36 8 33 N	29 37 28 E	Beaufort
Do. or Chateau Rouge, do.	36 6 35 N	29 34 55 E	Gauttier
Cavaliere, islet, west point, Caramania,	36 9 28 N	33 43 5 E	Beaufort
Do. do. south point, do.	36 7 30 N	33 43 40 E	Gauttier
Cayenne, Guiana	4 56 15 N	52 8 57 W	Lartigue
Chelidoni Cape, Caramania	36 12 45 N	30 25 50 E	Gauttier
Chelindri Cape, do.	36 8 50 N	33 22 20 E	Purdy
Cevero Vostochnoi Cape, Siberia	75 0 0 N	107 38 0 E	Tuckey
Chamouni village, Alps of Savoy	45 58 0 N	6 53 15 E	Chaulaire
Charles Cape, Hudson's Bay	62 46 0 N	74 15 0 W	Ducom
Charleston, South Carolina	32 40 0 N	79 40 0 W	Bowditch
Charlotte's Sound, New Zealand	41 5 57 N	174 20 50 E	Riddle
Chelsea, England	51 29 5 N	0 7 0 E	Enke
Cheviot hills, summit of, Scotland	55 28 52 N	2 8 12 W	Mudge
Chihuahua, Mexico	29 0 0 N	104 30 0 W	Pike
Chiloe isle (Castro), Chili	42 41 0 S	74 3 30 W	Malaspina

Places and Countries.	Latitudes.	Longitudes.	Authorities.
Chipeweyan Fort, New South Wales	58° 42′ 37″ N	111° 18′ 20″ W	Franklin
St Christopher's island, Antilles .	17 15 0 N	62 43 0 W	
Churchill Cape, Hudson's Bay .	58 48 0 N	93 13 0 W	Riddle
Cloch light-house, Firth of Clyde	55 56 0 N	4 52 0 W	
Clear Cape, Ireland . . .	51 21 55 N	9 29 0 W	White
Cloven Cliff, Spitsbergen .	79 56 0 N	9 6 0 E	Phipps
Clyde river, Baffin's Bay . .	70 21 0 N	67 30 0 W	Ross
Cobbe, Darfoor, Africa . .	14 11 0 N	27 48 0 E	Browne
Cod Cape, United States . .	42 5 0 N	70 20 0 W	Bowditch
Conett Cape, New Caledonia .	20 30 0 N	164 56 0 E	Cook
Do. north-west coast of Amer.	30 [illegible] 0 N	116 2 0 W	Conn-des Tems
Do. Japan . .	34 16 30 N	129 56 45 E	Krusensteirn
Columbia river, mouth of, north-west, coast of America . . .	46 19 0 N	123 54 0 W	Vancouver
Comorin Cape, peninsula of, India	7 56 0 N	77 44 30 E	Horsburgh
Conception, Chili . . .	36 43 34 S	73 5 33 W	Bauza
Do. Paraguay . .	23 28 0 S	57 3 12 W	Cor. Astronom.
Constantinople (Sancta Sophia), Turkey	41 0 12 N	28 59 2 E	Gauttier
Copenhagen, Denmark . .	55 41 4 N	12 35 46 E	Catt
Copiapo, Chili	27 9 0 S	71 13 45 W	Malaspina
Do. Bay of, Point A. . .	27 19 0 S	70 50 41 W	Basil Hall
Coquimbo do. . . .	29 56 39 S	71 15 56 W	Do.
Corinth, Greece	37 53 37 N	22 52 5 N	Gauttier
Cork, Ireland	51 53 54 N	8 30 0 W	Longfield
Corunna, Spain . . .	43 23 36 N	8 25 0 W	Oltmanns
Corse Cape, Corsica . .	43 0 35 N	9 22 55 E	Gauttier
Corse or Cape Coast, Guinea . .	5 6 0 N	1 51 0 W	Bowditch
Cracow, Poland . .	50 3 38 N	19 59 59 E	Conn-des Tems
Crinan Harbour, Scotland . . .	56 8 0 N	5 29 0 W	
Crio Cape, Caramania . .	36 40 46 N	27 6 6 E	Beaufort
Crimson Cliffs, Hudson's Bay .	76 0 1 N	67 59 50 E	Parry
Croker mountains, Baffin's Bay .	74 8 0 N	84 0 0 W	Ross
Cromarty, Scotland . .	57 42 0 N	4 1 15 W	Ducom
St Cruz island, Antilles . .	17 44 8 N	64 48 29 W	Conn-des Tems
Cumberland-house, New South Wales	53 56 40 N	102 16 41 W	Franklin
Cambray light-house, Firth of Clyde	55 43 0 N	4 57 W	
Cusco, Peru, South America .	13 42 0 S	71 5 45 W	Alcedo
Cyrene, ruins, Barbary . .	32 40 38 N	21 18 30 E	Smith
Damietta, Egypt . .	31 24 43 N	31 40 2 E	Ruppel
Dantzick, Prussia . . .	54 20 48 N	18 38 0 E	Conn des Tems
Dardanelles, old castle, Turkey .	40 9 8 N	26 20 0 E	Do.
Do. new do. of Asia, do.	40 0 7 N	26 1 5 E	Galiano
Darien gulf, point of, Colombia .	8 33 0 N	77 0 15 W	Fidalgo
De La Vela Cape, do. . .	12 18 0 N	71 50 0 W	Riddle
Delhi, India . . .	28 41 0 N	77 5 0 E	Hamilton
Demerary river point, Guiana .	6 48 0 N	58 1 37 W	Ducom
Derbent, Schirwan, Russia .	42 5 45 N	47 39 15 E	Russian Atlas
Diarbeker, Asiatic Turkey .	37 54 0 N	39 53 45 E	Conn-des Tems
Dominica island, Antilles .	15 18 23 N	61 32 15 W	Oltmanns
Dover in Kent, England . .	51 7 47 N	1 19 7 E	Mudge
Douglas, isle of Man . .	54 12 0 N	4 25 47 W	Jamieson
Dresden, Saxony . . .	51 2 50 N	13 13 1 E	Conn-des Tems
Dublin observatory, Ireland .	53 21 11 N	6 18 45 W	Do.
Dumbarton, Scotland . .	55 57 0 N	4 15 0 W	
Dumfries, Do. . . .	55 7 0 N	3 19 45 W	
Duncansby Head, do. . .	58 39 45 N	3 6 15 W	Downie
Dundas Cape, North America .	74 27 50 N	113 57 35 W	Parry
Dundee, Scotland . . .	56 25 0 N	3 2 15 W	Conn-des Tems
Dunkirk, France . .	51 2 9 N	2 22 37 E	Delambre
Dunnet Head, Scotland .	58 42 0 N	3 29 0 W	Ducom
Dunnos, isle of Wight, England	50 37 7 N	1 11 36 W	Mudge
Durham (castle), do. . .	51 28 45 N	2 22 23 W	Do.
Dusky Bay, New Zealand . .	45 47 27 S	166 18 9 E	Conn-des Tems
Durham city, England . .	54 36 31 N	1 34 6 W	Mudge
East Cape, New Zealand . .	37 42 0 S	178 30 0 E	
Eddystone rocks, light-house, England	50 10 55 N	4 15 3 W	Mudge
Edinburgh, Scotland .	55 58 0 N	3 10 15 W	Conn-des Tems
Edinburgh, New, Colombia, Darien	8 47 0 N	77 34 0 W	Alcedo
El Arish, Syria, (fortress) .	31 5 30 N	33 48 25 E	Gauttier
Eisleben, Prussia, Germany .	51 32 30 N	13 34 15 E	Zach
N.B. This is the birth-place of Luther			
Elbe river mouth, S. point .	53 36 39 N	9 0 15 E	Malham

Places and Countries.	Latitudes.	Longitudes.	Authorities.
Ellis Mount, China	37° 6′ 0″ N	120° 0′ 0″ E	Basil Hall
Elsineur, Denmark	55 57 0 N	12 38 15 E	Bode
Embden, Hanoverian States	53 22 0 N	7 12 38 E	Krayenhoff
Emineh Burun, E. point of the Hæmus	42 11 10 N	27 53 50 E	Gauttier
Essequibo river mouth, Guiana	7 10 0 N	58 21 15 W	Ducom
Etna, volcano, Sicily, summit of	37 43 31 N	15 0 0 E	Smith
Europe, light-house of, at the Bosphorus	41 11 10 N	29 7 0 E	Gauttier
Do. point of, Gibraltar	36 6 30 N	5 18 31 W	Don Tofino
Fair island, Orkneys, Scotland	59 32 46 N	1 47 0 W	Downie
Falmouth, England	50 8 0 N	5 2 45 W	Conn-des Tei
False Bay, South Africa	34 10 0 S	18 33 0 E	Do.
Do. Cape, Do.	34 26 40 S	18 53 0 E	Purdy
Farewell Cape, Greenland	59 45 0 N	47 50 0 W	Upton
Do. New Zealand	40 37 0 S	173 18 0 E	Ducom
Fayal, Azores islands	38 32 30 N	28 43 0 W	Riddle
Ferro island, east point		17 56 45 W	Borda
Do. west point	27 45 0 N	18 9 45 W	Do.
Ferrol, Spain	43 29 30 N	8 15 0 W	Conn-des Tems
Fife, Ness, Scotland	56 17 0 N	2 35 0 W	Mudge
Finisterre, Spain	42 54 0 N	9 16 0 W	Conn-des Tems
Florence, Tuscany	43 46 41 N	6 35 15 E	Do.
Florida Cape, United States	25 46 0 N	80 5 0 W	Stuts
Foreland, N. England	51 22 25 N	1 16 34 W	Mudge
Do. S. Do.	51 8 26 N	1 12 6 W	Do
Francois Cape, Hayti, Antilles	19 46 24 N	72 18 20 W	Fleurieu
Do. Old Cape, Do.	19 40 30 N	70 1 45 W	Borda
Franklin Fort, New Caledonia, B. Amer.	65 10 0 N	123 29 0 W	An. of Philos
Freyberg, Saxony	50 53 0 N	13 17 15 E	Conn-des Tems
Galloway, Mull of, Scotland	54 38 0 N	4 50 0 W	Riddle
Gallipoli, Turkey in Europe	40 25 33 N	26 39 45 E	Purdy
Galway, Ireland	53 28 30 N	9 13 0 W	Ducom
Galvez, town bay, Texas, Mexico	28 48 0 N	96 2 22 W	Pt. of Am. Sett.
Gangoutri, India, Himalaya	31 4 0 N	78 55 0 E	Hodgson
Garry island, mouth of Mackenzie river, North America	69 29 0 N	135 42 0 W	Franklin
Gaspe Bay, entrance of, Canada	48 47 30 N	64 52 0 W	Blunt
Geer Cape, Western Africa	30 38 0 N	9 51 45 W	Borda
Geneva, Switzerland	46 12 0 N	6 9 30 E	Conn-des Tems
Genoa, Sardinian States, Italy	44 24 0 N	8 52 55 E	Gauttier
George, Fort, Scotland	57 38 0 N	4 5 0 W	
George, St, Bermudas, America	32 22 0 N	64 33 0 W	Blunt
Georgetown, Grenada, Antilles	12 4 0 N	61 45 0 W	Diction. Geog.
Do. Cape of Good Hope	33 57 30 N	25 0 0 W	Do.
Do. Van Diemen's island	41 6 0 N	146 14 0 E	Do.
Do. Prince of Wales island	5 0 0 N	95 39 45 E	Jour. des Voya.
Ghent, Netherlands	51 3 12 N	3 43 42 E	Krayenhoff
Gibraltar, (city) Spain	36 6 30 N	5 21 12 W	Smith
Do. port of, Europe	36 5 15 N	5 20 10 W	Rumker
Glasgow, Scotland	55 51 32 N	4 17 0 W	Encke
Do. isle, Greenland	70 48 0 N	21 31 0 W	Scoresby
Do. Port, Scotland	55 56 0 N	4 38 0 W	
Goa, Portuguese India	15 28 55 N	73 53 30 E	Riddle
Cape of Good Hope	34 23 40 S	18 23 15 E	Flinders
City of do.	33 56 15 S	18 28 45 E	Purdy
Gottingen, Hanover	51 31 50 N	9 55 17 E	Trissnecker
Gottenburg Sound, Sweden	57 42 4 N	11 59 55 E	Klint
Gounich, Anatolia (Cape)	41 35 15 N	41 31 55 E	Gauttier
Gower Cape, China, Yellow Sea	36 57 0 N	122 19 0 E	Gower
Gravesend, England	51 27 39 N	0 22 15 E	Mudge
Green Lake, North America	54 16 0 N		
Greenock, Scotland	55 57 0 N	4 43 0 W	
Guadaloupe, Antilles	15 59 30 N	61 45 0 W	Oltmanns
Guayra, Colombia	10 36 19 N	67 26 45 W	Humboldt
Guanaxuato, Mexico	21 0 15 N	100 52 45 W	Oltmanns
Guancabamba, Peru	5 14 15 S	79 23 28 W	Do.
Guancavelica, do.	12 56 0 S	74 50 45 W	Alcedo
Guardafuy, east point of Africa	11 50 0 N	51 22 0 E	Salt
Guatimala, Central America	14 40 0 N	91 25 15 W	Oltmanns
Guyaquil, Colombia	2 11 21 N	79 39 46 W	Basil Hall
Guernsey, Island, England	49 25 33 N	2 33 0 W	Riddle
Hague, Holland	52 4 20 N	4 18 31 E	Krayenhoff
Hakluyts, Headland, Spitzbergen	79 46 0 N	9 49 0 E	Riddle

Places and Countries.	Latitudes.	Longitudes.	Authorities.
Hakluyts, Island, Baffin's Bay	77° 25′ 0″ N	61° 59′ 16″ W	Malham
Halifax, Nova Scotia, British America	44 36 0 N	63 28 0 W	Blunt
Basil Hall's Island, New Shetland	62 47 30 S	61 40 0 W	Weddell
Halle, Prussian Germany	51 29 5 N	11 58 2 E	Conn-des Tems
Hamburg, Germany	53 32 51 N	9 58 37 E	Do.
Hanover, Kingdom of do. Germany	52 22 25 N	9 42 55 E	Do.
Haerem, Holland	52 23 51 N	4 38 22 E	Krayenhoff
Harwich, England	51 56 43 N	1 17 15 E	Mudge
Hastings, Sussex, England	50 52 10 N	0 31 5 E	Conn-des Tems
Havre de Grace, France	49 29 14 N	0 6 38 E	Do.
Havannah, (Moro fort) Cuba	23 8 15 N	82 22 45 W	Humboldt
Hearne's Port, Melville Island	74 46 56 N	110 33 59 W	Parry
Helena, St, (James Town) Island	15 55 0 N	5 48 45 W	
Hillah, (ruins of Babel) Asiatic Turkey	32 31 18 N	44 11 9 E	Kerr Porter
Hobart Town, Isle of, Van Diemen	42 54 0 S	147 28 0 E	Flinders
Hogue, La, Cape, France	49 43 33 N	1 55 15 W	Bishop
Holyhead, Wales, Irish Channel	53 18 51 N	4 39 27 W	Riddle
Do. Island Castle, England	55 40 0 N	1 46 38 W	Mudge
Honda, Colombia	5 11 42 N	74 53 30 W	Humboldt
Honduras, Cape, G. of Mexico	16 2 0 N	86 1 45 W	Purdy
Hook's Camp, British North America	66 45 11 N	113 42 25 W	Franklin
Hooper's Isle, do.	75 5 18 N	[illegible] 55 58 W	Parry
Horne Cape. South America	55 59 21 N	67 13 45 W	Weddell
Hull, England, east coast	53 45 0 N	0 19 47 E	Jamieson
Mouth of the Humber, do.	53 36 13 N	0 48 54 E	Purdy
Hurd Cape, Baffin's Bay	77 49 0 N	79 48 0 W	Ross
Hydra Island, Greece	37 19 58 N	23 28 39 E	Gauttier
Jackson, Port, New Holland	33 51 30 S	151 17 30 E	Flinders
Jaffa, or Joppa, Palestine	32 3 25 N	34 46 10 E	Gauttier
Jakutskoi, Siberia	62 1 50 N	129 44 30 E	Encke
Rio Janeiro, Brasil	22 54 15 S	42 15 50 W	Roussin
Java Island, Indian Archip. west point	6 48 0 S	105 11 15 E	Wilson
Do. do. do. east point	8 46 0 S	114 33 0 E	Ann. Marit.
Icy Cape, north-west coast of America	70 29 0 N	166 23 0 E	Riddle
Ice Sound entrance, Spitsbergen	78 9 0 N	12 46 0 E	Scoresby
Jeniscisk, Siberia	58 27 19 N	92 10 49 E	Hansteen
Jersey, (St Aubin's) Island	49 12 59 N	2 10 34 W	Conn-des Tems
Jerusalem, Palestine	31 47 47 N	35 20 15 E	Do.
Imbros Island, (summit of) Greek Arch.	40 10 36 N	25 51 20 E	Gauttier
Imperial City, Chili	38 39 0 S	73 52 30 W	Bauza
Indjeh Cape, most N. point of Asia Minor	42 7 57 N	34 56 25 E	Gauttier
Innspruck, Tyrol, Germany	47 16 0 N	11 23 45 E	Amman
Inverkeithing, Scotland	56 4 0 N	3 22 0 W	
Inverness, do.	57 31 0 N	4 15 0 W	
St John, city and port, New Brunswick	45 16 0 N	66 10 0 W	Dic. Geograph.
Irkutsk, Siberia	52 16 41 N	104 33 45 E	Vsevolojsky
Irvine, Frith of Clyde	55 37 0 N	5 9 0 W	Ducom
St Jago, Chili, South America	33 26 30 S	70 54 0 W	Malaspina
Juan Fernandez, (Island) west point	33 45 0 S	79 1 1 W	Do.
Kangaroo Head, or Delambre Cape, New Holland	35 43 0 S	157 58 30 E	Flinders
Kerakooa Road, Owneehee, South Isles	19 28 0 N	156 0 0 W	Vancouver
St Kilda, Hebrides, Scotland	57 49 30 N	8 32 30 W	Huddart
Kingston, Jamaica	17 56 6 N	76 53 15 W	Captain Sabine
Kinnaird Head, Scotland	57 41 41 N	2 1 0 W	Downie
Kirkwall, Orkneys	58 58 0 N	3 5 0 W	Bishop
Mull of Kintyre, Scotland	55 17 0 N	5 41 0 W	Riddle
Mouth of the Kis. Ermak, or Halys, Anatolia	41 45 20 N	35 57 43 E	Gauttier
Do. Kuban, Straits of Kaffa, Russia	45 5 30 N	36 54 35 E	Do.
Do. Kola, Russian Lapland	68 52 30 N	32 48 0 E	Vsevolojsky
Kœnigsberg, Prussia, Baltic	54 42 12 N	20 29 0 E	Conn-des Tems
Grand Ladrone Isle, Chinese Sea	21 57 10 N	113 46 15 E	Krusenstiern
Ladauk, Upper Indus Valley	34 9 10 N	78 0 0 E	Trebeck
Lahore, Punjaub, India	31 50 0 N	73 50 0 E	Corres. Astron.
Lamlash Port, Arran, Scotland	55 33 0 N	5 10 45 W	Malham
Lancaster Sound, entrance, Baffin's Bay	74 19 0 N	83 50 0 W	Ross
Lands-End, Cornwall, England	50 4 7 N	5 41 31 W	Mudge
Leeds, England	53 47 33 N	1 38 30 W	Conn-des Tems
Leghorn, or Livorno, Tuscany	43 33 5 N	10 16 45 E	Zach
Leipsic, Saxony, Germany	51 19 14 N	12 22 23 E	Trissnecker
Leith, Scotland	55 59 50 N	3 10 0 W	Mudge

Places and Countries	Latitudes	Longitudes.	Authorities.
Lima, Lower Peru	12° 2 15 S	77° 7 15 W	Humboldt
Lipari Castle, Lipari Isles .	38 27 56 N	14 57 50 E	Smith
Lisbon, (Observatory) Portugal .	38 42 24 N	9 6 50 W	Do.
Liverpool, England, Irish Sea .	53 24 10 N	2 58 55 W	Mudge
Lizard Point, Cornwall, England .	49 57 41 N	5 11 16 W	Do.
London, (St Paul's) England .	51 30 49 N	0 5 47 W	Do.
Londonderry, Ireland . .	54 59 28 N	7 14 49 W	Ducom
Lopatka Cape, south-west point of Kamtschatka . .	51 0 15 N	157 0 0 E	Billings
Loxa, Colombia . .	4 0 0 S	79 23 15 W	Oltmanns
Lubeck, Germany . .	53 51 18 N	10 49 0 E	Ducom
Luxor, (ruins of Thebes) Upper Egypt	25 43 0 N	32 39 21 E	Ruppel
Lynn Regis, England . .	52 46 52 N	0 25 4 E	Mudge
Lyons, France . .	45 45 58 N	4 49 24 E	Conn-des Tems
Macao, China, Chinese Sea .	22 11 46 N	113 35 0 E	Flinders
Macartney Cape, Do. Yellow Sea	36 54 0 N	121 36 15 E	Gower
Do Point, north-west coast of Amer.	57 1 30 N	138 28 30 W	Vancouver
Macassar, (fort Rotterdam) Celebes	5 9 0 S	119 39 0 E	Ducom
Madera, (Funchal) Atlantic Ocean	32 37 0 N	16 54 26 W	Brisbane
Madras, Carnatic, India .	13 4 8 N	80 17 40 E	Goldingham
Madrid, Spain . .	40 25 6 N	3 42 15 W	Encke
Mahon, Port, Minorca . .	35 52 32 N	3 24 15 E	Smith
Malacca, (Fort) Straits of Do. India	2 12 0 N	102 15 0 E	Heywood
Malaga, Spain, Mediterranean Sea .	36 43 15 N	4 24 45 W	Smyth
Malta, east point, Do. .	35 52 20 N	14 34 5 E	Gauttier
Manchester, England .	53 29 0 N	2 14 22 W	Mudge
Manheim, (Observatory) Germany	49 29 18 N	8 28 0 E	Mechain
Manilla City, Philippines .	14 36 8 N	120 51 15 E	Conn-des Tems
Do. Do. . .	14 36 8 N	120 58 54 E	Daussy
St Louis Maranham, Brazil, (Cathedral)	2 31 43 S	41 21 25 E	Sabine
Mariagalante, Antilles, (Basseterre)	15 52 0 N	61 21 45 W	Purdy
Marseilles, (Observatory) France .	43 17 50 N	5 21 59 E	Zach
St Martin's Isle, N.W. point Antilles	18 4 26 N	63 6 27 W	Terrer
Martinico, (Fort Royal) Do. .	14 35 55 N	61 2 22 W	Port. de la Am.
Mascate, Coast of Omman, Arabia	23 28 0 N	58 48 0 E	Fraser
Maskelyne's Isle, New Hebrides .	16 32 0 S	167 48 21 E	Conn-des Tems
May Isle, Scotland . .	56 11 22 N	2 32 47 W	Mudge
Jan Mayne's Isle, Greenland, N E. point	71 8 0 N	8 49 47 W	Scoresby
Mecca, Hejas Arabia . .	21 28 9 N	40 15 0 E	Conn-des Tems
Medina, Do. Do. . .	25 15 0 N	40 3 0 E	Dic. Geograph.
Melville Island, North America, (Winter Harbour) . .	74 47 19 N	110 48 30 W	Parry
Memel, Prussia, Baltic . .	55 41 40 N	21 8 14 E	Klint
Mendocino Cape, America, N.W. coast	40 19 0 N	124 7 0 W	Vancouver
Do. Do. Do. .	40 29 0 N	124 29 15 W	Espinoza
Morawe, or Ancient Meroe, Nubia .	18 28 31 N	32 6 45 E	Ruppel
Mexico, New Spain . .	19 25 45 N	99 5 15 W	Oltmanns
Milan, (Observatory) Lombardy .	45 27 35 N	8 11 39 E	Cor. Astronom.
Mississippi, north-east entrance of, Gulf of Mexico . .	29 12 0 N	89 9 0 W	Bowditch
Do. Balize Light House . .	29 8 0 N	89 6 0 W	Do.
South-east entrance of do. .	28 59 0 N	89 13 0 W	Do.
South-west entrance of do. .	28 56 0 N	89 29 0 W	Do.
Mobile Point, Florida .	30 13 0 N	88 21 0 W	Do.
Do. City, Do. . .	30 40 0 N	88 21 0 W	Do.
Mocha, Arabia, Red Sea .	13 16 0 N	43 10 15 E	Conn-des Tems
Monpox, Colombia . .	9 14 20 N	74 7 30 W	Humboldt
Montague Island, America north-west coast . . .	59 46 0 N	147 19 0 W	Vancouver
Mont Blanc, Alps, Savoy .	45 49 58 N	6 51 37 E	Coraboeuf
Montego Bay, Jamaica . .	18 30 0 N	78 1 15 W	Leard
Monte Rey, (Observatory) California	36 35 45 N	121 51 6 W 121 35 0 W	Espinosa Broughton
Do. Video, Banda Oriental .	34 54 48 N	56 14 30 W	Oltmanns
Montpelier, France . .	43 36 16 N	3 52 45 E	Conn-des Tems
Montreal, Canada . .	45 31 0 N	73 35 0 W	Edin. Gazetteer
Montserrat Isle, north-east point Antilles	16 47 0 N	62 13 25 W	Oltmanns
Morocco, Barbary, Africa .	31 35 0 N	7 35 0 W	Dic. Geograph.
Moscow, European Russia .	55 45 45 N	37 33 0 W	Textor
Mosdok, Province of Caucasus .	43 44 5 N	44 40 27 E	Dic. Geograph.
Mosul on the Tigris, Turkey .	36 21 0 N	43 12 45 E	Jaubert
Mowee, east point, Sandwich Isles	20 44 40 N	136 2 30 W	Byr.& C.-des T

Places and Countries.	Latitudes.	Longitudes.	Authorities.
Munich, Bavaria, Iser river .	48° 9′ 55″ N	11 34 45 E	Amman
Mushed, Khorasan, Persia .	36 17 40 N	59 35 27 E	Fraser
Murray's Sound, Corea . .	34 22 39 N	126 2 52 E	Basil Hall
Nangasaki, Isle of Kiousiou, Japan	32 43 40 N	129 52 7 E	Krusensteirn
Nanking, on the Keeaung, China .	32 4 40 N	118 47 15 E	Conn-des Tems
Napa-Keeaung, Isle of Loochoo	26 13 39 N	127 38 30 E	Basil Hall
Nantes, Loire Inferieure, France .	47 13 6 N	1 32 44 E	Conn-des Tems
Naples, Italy, Mediterranean Sea	40 50 0 N	14 15 50 E	Gauttier
Narbonne, France, do. . .	43 11 13 N	3 6 15 E	Cassini
Natches, Mississippi, United States	31 27 48 N	91 24 42 W	Bowditch
Fort Nelson, Hudson's Bay .	57 35 0 N	92 12 0 W	Alcedo
Nertschinsk, Irkutsk, Siberia .	51 56 0 N	116 50 0 E	Vseyolojsky
Newcastle, Tyne River, England .	55 3 0 N	1 19 9 W	Mudge
Nicaragua, Central America .	11 0 0 N	82 42 52 W	P. de la Am. Set.
Nice, Italy, Mediterranean Sea .	43 41 16 N	7 16 37 E	Conn-des Tems
Nieuport, Netherlands, German Sea	51 7 45 N	2 45 8 E	Krayenhoff
Ningpho or Liangpho, Yellow Sea, China	29 55 12 N	121 25 4 E	Dic. Geograph.
Nishapore, Persia .	36 12 20 N	58 49 27 E	Fraser
Nismes, Department of the Gard, France	43 50 8 N	4 21 45 E	Conn-des Tems
Nootka Sound, America, north-west coast	49 39 40 N	126 34 49 W	Broughton
Nore, German Sea, England .	51 31 0 N	1 1 15 W	Malham
Norfolk, Virginia, United States	36 55 6 N	76 28 0 W	Blunt
Do. Sound, America, north-west coast	57 3 0 N	135 55 0 W	Dixon
North Cape, Lapland . .	71 10 0 N	26 0 45 E	Riddle
Norton Sound, America, N.W. coast	64 30 30 N	162 47 30 W	Cook
Noss, or Caithness Cape, Scotland .	58 30 0 N	3 9 15 W	Riddle
Nova Zembla, north-east point .	76 31 0 N	62 45 0 E	Litke
Nun Cape, Africa, Atlantic .	28 39 0 N	11 15 0 W	Borda
Nuremberg, Germany .	49 26 55 N	11 4 15 E	Wurm
Oaxaca, or Guaxaca, Mexico .	17 3 48 N	W	R. Geo. Soc. L.
O'Brien Isles, New Shetland .	61 52 0 S	56 20 0 W	Weddell
Ochotsk, Gulf of, do. Siberia .	59 19 45 N	143 16 0 E	Billings
Odessa, Russia, Black Sea .	46 28 51 N	30 43 22 E	Gauttier
Oesel Island, south point, Baltic .	57 54 54 N	22 12 3 E	Klint
Oeland do. south point, do. .	56 12 40 N	16 3 24 E	Do.
Do. do. north, do. . .	57 22 20 N	17 6 30 E	Conn-des Tems
Olinda, Brazil . .	8 13 0 S	35 5 15 W	Do. do.
Olutorskoi Cape, Kamtschatka .	59 48 0 N	169 15 15 E	La Peyrouse
Olympus Mount, Greece, Thessaly	40 4 32 N	22 21 53 E	Gauttier
Omsk, Siberia, Om and Irtish .	54 58 5 N	74 0 15 E	Vsevolojsky
Oonalashka Isle, America, N.W. coast	53 54 55 N	166 32 3 W	Kotzebue
Oural River, mouth of, Russia, Caspian Sea . . .	47 0 0 N	52 20 15 E	Vsevolojsky
Ouralsk do. . .	51 11 0 N	51 42 15 E	Do.
Oporto, Atlantio, Portugal .	41 8 51 N	8 37 18 W	Smith
Orbittello, Italy, Mediterranean Sea	42 25 30 N	11 11 25 E	Gauttier
Ord, Cape, Scotland . .	58 10 0 N	3 35 15 W	Riddle
Orcades, south, west point, S. Pacific	60 12 0 S	46 23 52 W	Weddell
Orenbourg, Siberia . .	54 46 5 N	55 6 15 E	Vsevolojsky
Entrance of the Oroonoko, Colombia	8 26 0 N	60 10 0 W	Ducom
New Orleans, Mississippi, United States	29 57 45 N	90 11 0 W	Riddle
Orsova on the Danube, Turkey .	44 42 11 N	22 25 20 E	Cor. Astronom.
Ortegal Cape, Spain, Atlantic Sea	43 46 40 N	7 54 0 W	Conn-des Tems
Mount Ossa, Thessaly, Turkey, river Peneus . . .	39 47 53 N	22 42 0 E	Gauttier
Ossolo-Duomo-di, Piedmont .	46 0 0 N	8 2 15 E	Cor. Astronom.
Ostend, Netherlands, German Sea .	51 13 57 N	2 55 8 E	Conn-des Tems
Ostia, Mouth of the Tiber, Italy .	41 45 35 N	12 16 35 E	Cor. Astronom.
Otranto, Adriatic, do. . .	40 9 20 N	18 30 5 E	Smith
Oxford, (Observatory) England .	51 45 38 N	1 15 29 W	Mudge
Owyhee, north point, Sandwich Isles, Pacific Ocean . . .	20 17 0 N	155 58 45 W	Conn-des Tems
Do. south point, do. do. .	18 54 30 N	155 45 0 W	Do. do.
Do. east point, do. do. . .		154 51 2 W	Byron
Pachi Cape, Anatolia, Black Sea, Asia	42 6 40 N	35 0 55 E	Gauttier
Padua, (Observatory) Lombardy, Italy	45 24 2 N	11 52 39 E	Zach
Pagahm, Burmah, river Irawaddy .	21 9 0 N	94 35 0 E	Hamilton
Palermo, (Observatory) Sicily, Mediterranean Sea . .	38 6 44 N	13 20 15 E	Piazzi
Palinuro, Cape, Italy, do. .	39 59 10 N	15 17 5 E	Gauttier
Pallas, Bay of, Jesso, North Pacific	44 0 0 N	141 54 0 E	Krusensteirn
Palma, Majorca, Baleares Isles .	39 31 4 N	20 39 15 E	Conn-des Tems

Places and Countries.	Latitudes.	Longitudes.	Authorities.
Selenginskoi Ostrog, on the Selenga, Siberia	51° 6′ 6″ N	106° 39′ 15″ E	Vsevolojsky
Semipalatnaia, on the Irtish, Do.	50 29 45 N	79 45 0 E	Do.
Semnoon, Kumish, Persia	35 33 30 N	53 25 18 E	Fraser
Senegal river, north point, Atl. Africa	15 55 18 N	16 32 25 W	Roussin
Sennaar, Nile, Nubia	13 36 51 N	33 41 45 E	Cailliaud
Serampore, Bengal, Ganges	22 45 0 N	88 26 0 E	Hamilton
Seregippe del Rey, Brazil	11 10 42 S	37 13 45 W	Roussin
Serinagur, on the Alacananda, India	30 11 0 N	78 44 0 E	Hamilton
Seville, Andalusia, Spain	37 23 50 N		Antillon
Sheerness, England, R. Medway	51 26 43 N	0 44 26 W	Mudge
Siam, or Yuthia, Siam, gulf of	14 20 40 N	101 15 0 E	Purdy
Sidney, Cove, New Holland	33 51 30 S	151 22 15 E	Baudin
Sienna, Tuscany, R. Ombrone	43 19 16 N	11 20 11 E	Cor. Astronom.
Sierra Leone, Atlantic, Africa	8 29 28 N	15 39 42 W	Capt. Sabine
Singanfou, Shensee, China	34 16 45 N	108 57 0 E	Conn-des Tems
Sinope, Anatolia, Black Sea	42 2 30 N	35 9 45 E	Gauttier
Slave Lake Fort, Br. North America	61 11 8 N	113 51 35 W	Franklin
Smeio, Gorskaia or Schlangenberg, Siberia	51 9 27 N	82 9 45 E	Conn-des Tems
Smith's Sound, Baffin's Bay	77 55 0 N	76 15 0 W	Ross
Smolensko, Dnieper, Russia	54 46 0 N	32 23 15 E	Vsevolojsky
Smyrna, Mediterranean Sea, Turkey	38 28 7 N	27 6 48 E	Conn-des Tems
Soulinch (light-house), m. of the Danube	45 10 15 N	29 10 50 E	Gauttier
Soor (Tyre), Syria, Medit. Sea	33 17 0 N	35 14 35 E	Do.
Spartel Cape, Barbary	35 48 40 N	5 53 10 W	Conn-des Tems
Stafford, England, Sow river	52 48 0 N	2 7 0 W	Edin. Gazetteer
Stettin, Pomerania, Prussia, Oder river	53 23 20 N	14 32 59 E	Catte
Stirling, Forth river, Scotland	56 6 0 N	3 59 0 W	
Stockholm, Sweden, Maeler Lake	59 20 31 N	17 51 0 E	Klint
Stonehaven, Scotland, German Sea	56 58 0 N	2 13 0 W	Riddle
Stonehenge, England, Wiltshire	51 10 44 N	1 49 8 W	Mudge
Strasburg, France, Rhine	48 34 56 N	7 44 56 E	Conn-des Tems
Stromness, Orkneys, Scotland	58 51 0 N	3 9 0 W	Edin. Gazetteer
Stutgard, Wirtemberg, river Neckar	48 46 15 N	9 10 0 E	Conn-des Tems
Suez, Egypt, Red Sea	29 56 37 N	32 35 50 E	Nouet
Sunderland, England, German Sea	51 55 12 N	1 21 16 W	Mudge
Sunium, or Cape Colonna, Attica, Greece	37 39 13 N	23 1 34 E	Gauttier
Surat, India, Indian Ocean	21 11 0 N	73 7 0 E	Hamilton
Swansea, England, Wales	51 37 13 N	3 55 32 W	Mudge
Syene, or Assouan, Egypt, Nile	24 5 23 N	32 55 4 E	Nouet
Syracuse (lights), Sicily	37 2 58 N	15 16 50 E	Smith
Tabreez, or Tauris, Aderbijan	38 5 10 N	47 17 30 E	Brown
Taganrock, sea of Azoff, Russia	47 12 40 N	38 39 0 E	Vsevolojsky
Talcaguana, Chili, Pacific Ocean	36 42 52 S	72 59 33 W	Basil Hall
Tanjore, peninsula of India	10 42 0 N	74 30 30 E	Hamilton
Tarbet Ness, Scotland	57 51 0 N	3 47 0 W	Riddle
Tarentum, Italy	40 28 0 N	17 35 0 E	Gauttier
Tariffa Point, Spain	36 0 30 N	5 35 15 W	Conn-des Tems
Tarragona, Spain, Medit. Sea	41 8 50 N	1 15 30 W	Do.
Tarsus, Caramania, Turkey	36 46 30 N	34 46 45 E	Gauttier
Taunton, England, river Thone	50 0 59 N	3 5 22 W	Mudge
Teflis, on the Kur, Georgia, Russia	41 43 40 N	45 2 45 E	Gueldenstadt
Teheraun, Persia	35 40 0 N	51 22 50 E	Fraser
Do. Do.	35 41 50 N	50 51 25 E	Jaubert
Teneriffe Peak, Canaries	28 17 0 N	16 12 50 W	Humboldt
Terceira isle, Azores	38 46 0 N	27 0 0 W	Conn-des Tems
Terek, mouth of the, Caspian Sea, Russia	44 0 0 N	47 20 15 E	Vsevolojsky
Thermodon, do. Black Sea, Anatolia	41 13 15 N	37 4 15 E	Gauttier
Thurso Bay, Scotland, N. sea	58 36 0 N	3 15 45 W	Malham
Tobolski, Siberia, Tobol, Irtish	58 11 42 N	68 0 15	Vsevolojsky
Tokat, Anatolia, Turkey in Asia	40 7 0 N	36 30 0 E	Jaubert
Toledo, Spain, Tagus river	39 52 24 N	4 11 0 W	Antillon
Toluca, Mexico	19 26 19 N	99 21 30 W	Humboldt
Tomependa, Peru, Tunguragua river	5 31 28 S	78 37 15 W	Do.
Tomsk, river Tom, Siberia, Russia	56 59 38 N	84 59 15 E	Vsevolojsky
Torbay, England, English Channel	50 24 1 N	3 28 14 W	Mudge
Tornea, Lapland, Sweden, Gulf of Bothnia	65 50 50 N	24 12 0 E	Vsevolojsky
Tortosa, Spain, Ebro river	40 48 46 N	0 23 0 W	Conn-des Tems
Do. Cape, entrance of the Ebro	40 43 55 N	0 45 8 W	Don Tofino
Do. Syria, Mediterranean	34 50 25 N	35 51 50 E	Gauttier
Toulon, Do. France	43 7 9 N	5 55 41 E	Conn-des Tems

Places and Countries.	Latitudes.	Longitudes.	Authorities.
Toulouse, Garonne river, France .	43° 35′ 46″ N	1° 26′ 30″ W	Conn-des Tems
Trafalgar Cape, Spain, Atlantic Sea	36 10 15 N	6 0 0 W	Do.
Tranquebar, Peninsula of India, Bay of Bengal	11 0 15 N	79 55 30 E	Ducom
Trebisond, Anatolia, Black Sea, Turkey	41 1 0 N	39 44 12 E	Gauttier
Trent, Germany, Adige . .	46 6 26 N	11 3 45 E	Rohrer
Trieste, Illyria, Adriatic . . .	45 38 50 N	13 47 9 E	Zach
Trincomalee, isle of Ceylon, Indian Oc.	8 32 0 N	81 17 0 E	Hamilton
Tripoli, Syria, Mediterranean .	34 20 22 N	35 51 28 E	Gauttier
Do. Barbary, Do. . .	32 53 56 N	13 10 58 E	Smith
Tshad Lake, Central Africa, west side	13 30 0 N	15 30 15 E	Clapperton
Tunis, Barbary, Mediterranean .	36 48 30 N	10 25 45 E	Smith
Tunja, Colombia	5 26 0 N	73 46 52 W	Oltmanns
Turin, Piedmont, Italy, Po . .	45 5 0 N	7 40 15 E	Conn-des Tems
Tweer, Russia, Volga . . .	56 51 0 N	37 5 15 E	Vsevolojsky
Tzerkasky, on the Don . .	47 13 34 N	39 50 15 E	Cor. Astronom.
Ubes, St. Portugal, Atlantic Ocean .	38 28 54 N	8 53 52 W	Conn-des Tems
Ulm, Germany, Danube . .	48 23 20 N	9 59 6 E	Michain
Ummerapoorah, Ava, Irawaddy .	21 55 0 N	96 7 0 E	Hamilton
Upsal, Sweden, Sala river .	59 51 50 N	17 38 15 E	Encke
Uranienburg, Denmark, Baltic .	55 54 38 N	12 42 59 E	Catte
Ustkamengorski, Siberia, Irtish .	49 56 45 N	82 40 15 E	Conn-des Tems
Ushant Cape, France, English Channel	48 28 8 N	5 3 6 W	Do.
Valdivia, Chili, Pacific . .	39 53 20 S	73 33 24 W	Malaspina
Valencia, Spain, Mediterranean Sea .	39 23 0 N	0 24 50 W	Humboldt
Valladolid, Spain, Douro river .	41 50 0 N	4 25 0 W	
Valparaiso, Chili, Pacific . .	33 1 48 S	71 51 0 W	Basil Hall
Varna, Black Sea, European Turkey	43 12 15 N	27 56 10 E	Gauttier
Vathi (isle of Samos), Archipelago .	37 46 0 N	26 58 0 E	Do.
Vela Cape, Colombia, Gulf of Mexico	12 11 0 N	72 15 35 W	Fidalgo
Venice (St Mark), Italy, Adriatic .	45 25 58 N	12 20 52 E	Zach
Vera Cruz, Mexico, Gulf of Do. .	19 11 52 N	96 9 45 W	Humboldt
Cape Verde, Africa, Atlantic Ocean .	17 11 5 N	25 15 7 W	Duperry
Do. west point of Africa .	14 43 5 N	17 32 52 W	Roussin
Verona, Italy, Adige . . .	45 26 26 N	11 1 20 E	Wurm
Vienna, Austria, Danube . .	48 12 40 N	16 22 45 E	Conn-des Tems
Vienne, Dauphiny, France .	45 32 57 N	4 53 39 E	Do.
Vigo, Spain, Atlantic Ocean . .	42 13 20 N	8 33 30 W	Do.
Vilna, Lithuania, Russia . .	54 41 2 N	25 18 0 E	Do.
Vincent, Cape, St Portugal . .	37 2 51 N	8 58 39 W	Edin. Gazetteer
Wardhuys, Lapland, Sweden .	70 22 36 N	31 6 0 E	Encke
Warsaw, Poland-Russian, Vistula .	52 14 28 N	21 2 47 E	Wurm
Washington, United States, Patowmack	38 55 0 N	76 58 45 W	Cor. Astronom.
Waterford, Ireland, St George's Channel	52 13 0 N	7 10 0 W	Riddle
Waygatz Strait, Icy Sea . .	70 50 0 N	57 45 0 E	Do.
Whitehaven, England . .	54 36 0 N	3 34 0 W	Mudge
Wiburg, Gulf of Finland, Russia .	60 42 40 N	28 46 5 E	Conn-des Tems
Wigton, Galloway, Scotland	55 10 0 N	4 42 45 W	Malham
Windsor, England, Thames . .	51 29 0 N	0 35 28 W	Mudge
Woahoo, Sandwich Isles, Pacific .	21 17 57 N	157 52 0 W	Kotzebue
Woolwich, England, Thames .	51 29 35 N	0 3 38 E	Mudge
Wrath Cape, Scotland . .	58 38 30 N	0 4 57 W	Purdy
Yanar volcano (Chimæra), Caramania	36 21 15 N	30 10 0 E	Beaufort
Yarmouth, England, east coast .	52 36 40 N	1 44 0 E	Huddart
York Do. Ouse river .	53 57 45 N	1 4 34 W	Mudge
Do. New, United States . .	40 42 43 N	74 3 27 W	Sabine
Zacatecas, Mexico . . .	23 0 0 N	101 34 45 W	Laguna
Zalappa, Do.	19 30 8 N	96 54 31 W	Conn-des Tems
Zante island, Ionian Republic, S.E. point	37 42 30 N	20 59 25 E	Gauttier
Do. city, Do. . .	37 47 17 N	20 54 42 E	Conn-des Tems
Zanzibar (road), E. Africa, Indian Ocean	6 3 15 S	39 9 58 E	Clerval
Zembla Nova, N. point, Icy Sea .	78 5 0 N	76 15 0 E	Ducom
Zumpango, Mexico . .	19 46 52 N	98 3 45 W	Humboldt
Zurich, Switzerland, L. of Do. .	47 22 33 N	8 31 30 E	Conn-des Tems

NO. II.—TABLE OF EUROPEAN MOUNTAINS, EXCEEDING 8,000 FEET IN HEIGHT,

ARRANGED ACCORDING TO THEIR RESPECTIVE ALTITUDES.

Mountains.	English Feet.	Authorities.
Mont Blanc, or the White mountain, Savoy	15,872	Trembly
	15,795	Tralles
	15,526	Pictet
Mont Rosa, between the Valais and the Milanese	15,5[illegible]1	Zumstein
Ortelin-Horn, between Bormio and the Tyrol	15,430	Saussure
Mont Cervin, or the Mutter-Horn, between the Valais and the Milanese	14,778	Do.
Mount Coneira, Italy	14,165	Do.
Mount Combin, S. W. of the Mutter-Horn	14,135	Do.
Mont Pelvoux, at the head of the Valuissa, Hautes Alps	14,118	Zach
Finster-Aar-Horn, Switzerland, north of the Valais	14,116	Tralles
Dome de Goutte, a peak of Mont Blanc	14,080	Do.
Joselmo, between France and Piedmont	14,058	Farmond
Needle, at the N. E. of the Col de Giant	13,914	Journal de Physique, 1812
Mont Viso, or Vesulus, at the source of the Po	13,856	Ephemeris of Zach, 1820
Peak at the N. E. of the Col de Laniere, Hautes Alps	13,856	Do.
Mont Olan Do. Do.	13,844	Do.
Col de Mt. Visc de Ristolas	13,836	Do.
Roc de la Nieu	13,830	Do.
Gross-Glockner Horn, Tyrol	13,830	
	12,788	Schultes
Jungfrau-Horn, Switzerland, N. of the Valais	13,730	Tralles
Mount Ozon, Hautes Alps, France	13,466	Zach's Ephemeris, 1820
Schreck-Horn, Switzerland, N. of the Valais	13,404	Tralles
	11,038	Oriani
Mont la Maurin, Hautes Alps	13,145	Zach's Ephemeris, 1820
Pic de Ristolaz, between France and Piedmont	13,138	Murazzo
Roc entre Maurin et Lac Cap. Do.	13,120	Do.
Eiger-Horn (interior), Switzerland, N. of the Valais	13,086	Tralles
Do. (exterior) Do.	13,084	Do.
Piz. Stael, in the valley of Schamis	10,010	Cassini
Weishorn, in the Mutterthal, 6 leagues E. of Visp, in the Valais	13,000	
Mountain N. W. of Briancon	12,947	Welden
Aiguille de Midi, Savoy, near Mont Blanc	12,857	Journal de Physique
Breil-Horn, N. of the Valais, canton of Berne, Switzerland	12,812	Saussure
Les Trois Ellions, France, Hautes Alps	12,749	Zach's Ephemeris, 1820
Mont Laurang, Do. Do.	12,672	Do.
Aiguille de Goutte, Savoy, a peak of Mont Blanc	12,672	Saussure
Aiguille de Dru, Savoy, near Do.	12,518	Do.
Mount Galion de la Grave, Hautes Alps, France	12,480	Zach's Ephemeris, 1820
Wetter-Horn, canton of Berne, Northern Alps, Switzerland	12,470	Keller's Map
Blumlis Alp. Wilde Frauen	12,216	Keller and Ebel
Alt Ells, canton of Berne, Northern Alps, Switzerland	12,194	Keller's Map
Balm-Horn, Do. Do. Do.	12,194	Do.
Col de Argentiere, Savoy, Italy	12,173	Saussure
Monte delli Dizgrazii, Italian Alps	12,070	Welden
Roche Melon, near Mount Cenis, France	11,977	
Dolden-Horn, Northern Alps, canton of Berne, Switzerland	11,933	
Monte Frerera, Italian Alps	11,875	Welden
Dædi-Horn, Do. confines of the Grisons	11,818	
Pic d'Ossano, Italian Alps	11,700	Hutton
Susten-Horn, Do. canton of Berne,	11,605	
Mount Titlis, Northern Alps, Switzerland	11,540	Saussure
Roche Michel, Hautes Alps, near Mount Cenis	11,468	

Mountains.	English Feet.	Authorities.
Maladetta, Pyrenees, the highest peak of Spain	11,436	
Pico de Venleta, Granada, Spain . .	11,398	La Borde
Rock-horn, Germany, Tyrolian Alps .	11,374	
Sonnenblick, Do. Do. .	11,374	
Nar du Kohe, Do. Do. . . .	11,347	
Pic de Posets, Pyrenees, Spain .	11,290	Vidal and Reboul
Col de Giant, Savoy, Italy	11,284	Saussure
Mount Perdu, Pyrenees, Spain . .	11,182	Vidal and Reboul
Mount Stella, Germany . . .	11,166	
Mount Velan, the highest peak of the Grand St Bernard, between Piedmont and the Valais .	11,116	Murith with Ebel's Switz.
Kistenberg, between the Grisons and the Canton of Glaris	11,091	Ebel's Switzerland
Cylinder of Marbore, Pyrenees, Spain . .	11,067	Vidal and Reboul
Col de Saix, Hautes Alps, France .	11,029	Zach's Journal, 1820
Western peak of the Maladetta, Pyrenees, Spain	11,020	Vidal and Reboul
Montagne de Vignemale, Do. Do.	11,014	Do.
Pass of Mount Cervin, at the foot of the Needle	10,970	Saussure
Voghelsberg, or Muschel-Horn, head of the Upper Rhine	10,965	Ebel's Switzerland
Steiner Alp, Tyrol, Germany . .	10,941	Do.
Montagne de Chaillet le Vieux, Hautes Alps, France	10,905	Zach's Journal, 1820
Mount Etna, or Il Monti di Gibello, Sicily	10,883	Captain Smyth
Haustock, Grisons, Switzerland .	10,873	
Summit of the Furca, Do. head of the Valais	10,850	
Diablerets, north side of the Lower Valais .	10, 69	Ebel's Switzerland
Peak of the Cascade, Pyrenees, Spain .	10, 58	Vidal and Reboul
Spanovier, canton of Zurich, Switzerland .	10,	Ebel's Switzerland
Scheer-Horn, or Split Peak, Northern Alps, Do.	10,742	Do.
Maladetta, Pyrenees . . .	10,681	Cordier
Pic de Moncal, Pyrenees, Spain .	10,675	Vidal and Rebou
Summit of Mount Cenis, between Piedmont and Dauphine	10,662	
Col de Laneire, Hautes Alps, France .	10,656	Zach's Journal
Col de Turbon, Do. Do. . .	10,624	Do.
Pic de Cambulle, Pyrenees, Spain .	10,624	Vidal and Reboul
Peschiera Alps, Italy . . .	10,620	
Pic Longue, valley of Gedro, Pyrenees, Spain	10,600	Vidal and Reboul
Pic de Crabsoules Occidental, Do. Do. .	10,572	Do.
Pic la Taillon, Do. Do. .	10,566	Do.
Monte del Oro, between the Valteline and the Engadine	10,560	Dr Schouw
Pic de Tromouse, valley of Heas, Pyrenees, Spain	10,508	Vidal and Reboul
Asguille Noire de Nevache, Hautes Alps, France	10,508	Zach's Journal, 1820
Ritzlehorn, canton of Berne, Swiss Alps .	10,500	
Tetes Rousses, at the foot of the Needle of Goutte	10,477	Saussure
Dent de Midi, St Maurice, Lower Valais .	10,455	Do.
Tombo-Horn, between Chiaverna and the Rhinwald	10,418	Zach's Journal, 1820
Glaserberg, Grisons, Switzerland . .	10,400	Do.
Hochschwartsehohe, Tyrolian Alps .	10,400	Do.
Playley Rogel, Do. . .	10,400	Do.
Col de Soufile, Hautes Alps, France .	10,400	Do.
Joch-Berg, near the Titlis Berg, Switzerland .	10,368	Ebel's Switzerland
Grand Pic de Niege Vielles, Pyrenees .	10,343	Zach's Journal, 1820
Pic de Badiseure, head of the valley of Brun, Pyrenees, Spain . . .	10,336	Vidal and Reboul
Tuque de Maroupas, Pyrenees, Spain .	10,336	Do.
Olden-Horn, north of the Valais, Switzerland	10,272	Ebel's Switzerland
Pizo-Streto, near Davos, in the Grisons, Do. .	10,226	Dr Schouw, Zach's Journal
Pizi Bianca, or White Peak, south of M. Rosa	10,195	Saussure
Mount Terglau, the highest of the Julian Alps, head of the Save river . . .	10,184	Monthly Magazine
Blackenstock, Northern Alps, Switzerland .	10,170	Ebel's Switzerland
Urner-Rostock, canton of Uri, Do. .	10,170	Do.
Marschall-Horn, Alps . .	10,170	Do.
Grand Pic de Niege Vieille, head of the valleys of Pragmus and Couplan, Pyrenees, Spain .	10,150	Vidal and Reboul
Mount Fieudo, one of the peaks of the St Gothard, Switzerland . . .	10,149	Kellar's Map

Mountains.	English Feet.	Authorities.
Pic de Quairat, valley of Astos de Oo, Pyrenees, Spain . . .	10,138	Vidal and Reboul
Mount Buets, Savoy, north-west of Mont Blanc, Italy	10,131	Saussure
Pic de Fourcanade, head of the valley of Essera, Pyrenees, Spain . . .	10,042	Vidal and Reboul
Pic de Biedous, valley of Gestain, Pyrenees, Spain, nigh the Port de Pizm . .	10,023	Do.
Town of Marbore, Pyrenees, Spain . .	9,977	Do.
Scheile, between the Grisons and canton of Glaris, Switzerland . . .	9,973	Kellar's Map
Urndghelli, Northern Alps, Switzerland, canton of Uri	9,962	Ebel's Switzerland
Glacier of Mount Cervin, or Les Cimes Blancs	9,920	Saussure
Ruska Poyana, western chain of the Carpathians	9,912	Balbi
Breche de Roland, Pyrenees . .	9,868	Vidal and Reboul
Pic de Arrieu Grand, at the head of the valley of Azun, Pyrenees . . .	9,862	Do.
Pic de Irree, Spanish side of the Pyrenees .	9,830	Do.
Pic de Basoude, nigh the Port du Plan, Do. .	9,805	Do.
Pic de Midi d Ossau, Pyrenees, French side	9,799	Do.
Foot of the Cones of Mount Etna, Sicily .	9,797	Captain Smith
Seesa Plana, between the Grisons and the Vorarlberg	9,792	Keller's Map
Aiguillon de Heas, nigh the Col de Cedro, Pyrenees, French side . . .	9,747	Vidal and Reboul
Gross Kogel in Rauris, Salzian Alps, Germany	9,710	Virthaller
Mont de Chabuier, Hautes Alps, Dauphine, France	9,702	Zach's Journal
Pic entre Ourcure and Ancille, Do. Do. Do.	9,696	Do. 1820
Pic de la Serrere, valley of Aston, Pyrenees, French side	9,696	Vidal and Reboul
Wasman, Salzian Alps, Germany	9,658	Virthaller
Pic de Rious, nigh the Port des Arties, valley of Asan, Pyrenees . . .	9,657	Vidal and Reboul
Roth-Horn, or Red Peak, Tyrolian Alps, Germany	9,640	Saussure
Do. Do. nigh Mount Corin, Italian Alps	9,638	Do.
Mont Antane, Hautes Alps, Dauphine, France	9,632	Zach's Journal
Pic de Aule, valley of Osseau, Pyrenees .	9,632	Vidal and Reboul
Pic de Port de Seguer, Do. . .	9,626	Do.
Pic d' Arree, Superieur, Do. .	9,626	Do.
Dronas, W. of the Grand St Bernard, Italian Alps	9,606	Saussure
Hoch-Vogel, highest of the Suabian Alps, in the territory of Augsburg . .	9,600	
The English Lodge of Mount Etna, Sicily .	9,596	Captain Smith
Pic de Cervieres, Hautes Alps, Dauphine, France	9,594	Zach's Journal
Gailuripi, western chain of the Carpathians .	9,594	Balbi
Pic du Midi of Begorre, Pyrenees, Do.	9,568	Vidal and Reboul
Mont de la Obiou, Hautes Alps, Dauphine .	9,562	Zach's Journal
Dent de Mordes, opposite St Maurice, entrance of the Valais, Swiss Alps . .	9,549	Ebel's Switzerland
Dodi Berg, canton of Uri, Swiss Alps .	9,548	Keller's Map
Dachstein, Tyrolian Alps, Germany .	9,541	
Pic de Pedroux, valley of Arriege de Herens, Pyrenees	9,537	Vidal and Reboul
Monte Corno, or Corno Grand, highest point of the Grand Sasso, and the loftiest of the Appenines	9,531	Schouw, Zach's Journal
Pic de Montouliou, called by the Spaniards the Tuque de Maubune, Pyrenees . .	9,525	Vidal and Reboul
Summit of Mont Cenis, at the Loche d' Assa, Alps	9,515	Schouw, Zach
Pic d' Arree, Inferieur Pyrenees .	9,506	Vidal and Reboul
Glœrnitsch, highest peak of, called the Finnerberg, canton of Glaris, Swiss Alps . .	9,496	Ebel's Switzerland
Philosophical Tower, Mount Etna .	9,489	Captain Smith
Engelberger, Rostock, canton of Zurich, Swiss Alps	9,447	Ebel's Switzerland
Pic de Lanoux, at the source of the Segre, Pyrenees	9,382	Vidal and Reboul
Goldberg, Noric Alps, Germany . .	9,370	
Mount Oursine, Hautes Alps, Dauphine, France	9,363	Journal of Zach
Mountains of Majella, Appenines, Naples .	9,353	Schouw, Zach
Pic du Arbison, valley of Aure, Pyrenees .	9,344	Vidal and Reboul
Kattenbrun, Salzian Alps, Germany .	9,340	

Mountains.	English Feet.	Authorities.
Pic du Monvallier, at the source of the Salat, Pyrenees, France	9,312	Do.
Monte Rotondo, in Corsica	9.274	Pinkerton
Snow-line on the N. *side of the Alps*	9,267	Pfeyffer
Pic de la Fontargent, Pyrenees, France	9,260	Vidal and Reboul
Mount Auroux, Hautes Alps, Dauphine, France	9,172	Journal of Zach
Inferior limit of perpetual congelation in the Sierra Nevada of Granada, Spain	9,161	Roxas
Mount Canigau, or Pic du Midi of Rousillon, do.	9,160	Vidal and Reboul
Seidel Horn, highest peak of the Grimsel, Swiss Alps	9,152	
Col Galibier, Hautes Alps, Dauphine, France	9,141	Journal of Zach
Peirie at the source of the Arrigge and Fete, Pyrenees, France	9 129	Vidal and Reboul
Wellistocchi, north of the valley of Engelberg, Swiss Alps	9,107	Ebel's Switzerland
Righedalslaeske, do. do. do.	9,107	Do.
Piz Bafrin, canton of Uri, do.	9.104	Saussure
Herzog Ernest, Salzian Alps	9,096	
Pierre Ronde, a peak of Mont Blanc, Savoy	9,088	Do.
Taunagai, in the Uralian range	9,061	Balbi
La Jardin du Courtel, Savoy, between Geneva and Martigny	9,050	Journal des Mines
Monte Chenalletta, Do. Italian Alps	9,011	Saussure
Col de Cramont, Do. Do.	9,005	Do.
Tuque de Geizo, valley of Astos de Venasque, Spanish side, Pyrenees	9,000	Vidal and Reboul
Mountains of Sardinia, called Argentaro	9.000	
Hauk-Rogel, Salzian Alps, Germany	8,964	Virthaller
Inferior limit of constant congelation on the Pyrenees, N. *lat.* 42° 45′	8,960	Humboldt
Priel Great, Upper Austria, Noric Alps	8,950	
Mount Parpaillon, Hautes Alps, Dauphine, France.	8.917	Zach's Journal
Piz Bafrin, Beverin, or Cantides, Grisons, valley of Domtesch	8,943	Ebel's Switzerland
Passage des Fours, Savoy, Italian Alps	8,935	Saussure
Summit of the St Gothard, Swiss Alps	8,930	
Mont Galanda near Coire, Grisons, Do.	8,925	Ebel's Switzerland
Aiguille de Vauns, Savoy, Italian Alps	8,883	Journal des Mines
Rathausberg, Salzian Alps, Germany	8,853	Virthaller
Mount Rosa of the St Gothard	8,824	Saussure
Summit of the Pass from Chiavenna into the Val de Lei, in the Grisons	8,787	Schouw, Zach
Inferior limit of constant congelation on the Alps, N. *lat.* 45° 45′ *and* 46°	8,768	Humboldt
Rothestock-Staffle, Switzerland	8,756	Wahlenberg
Rosboden Hocle, canton of Berne, Switzerland	8,735	
Foot of the Aiguille du Midi, Savoy, Italian Alps	8,723	Journal des Mines
Monte Della Oro, in Corsica	8,710	Pinkerton
Monte Legnone east of the Lake of Como, Italian Alps	8,707	Schouw, Zach
Bulhest in Transylvania	8,698	Balbi
Crabiere, between the valleys of Milles and Canigau, Pyrenees, France	8,693	Vidal and Reboul
La Fourche de Betta, Savoy, Italian Alps	8,646	Saussure
Martenselistoch, between the Grisons and canton of Glaris, Swiss Alps	8,630	Keller's Map
Peaks on both sides of the Wendsfell, Salzian Alps.	8,588	
Scaletta, between the Lower Engadine and the Grisons, Swiss Alps	8,566	Do.
Faull-Horn, north of the Valais, canton of Berne Swiss Alps	8,556	Ebel
Pic de Irree, Spanish side of the Pyrenees	8,550	Vidal and Reboul
Seigher Berg, Swiss Alps	8,550	Ebel
Base of the Needle of Blaitaire, Savoy, Italian Alps.	8,538	Saussure
Glacier de Talefre, Savoy, Do.	8,538	Do.
Supposed limit of inferior congelation in N. *lat.* 49° *Carpathians*	8,526	Wahlenberg
Sierra de Estrella, between Spain and Portugal, (Mons Herminius)	8,520	
High valley of the Reterzatt in Transylvania	8,507	Balbi

Sierra de Guadarrama, between Old and New Castile, Spain	8,500	
Geier Koff, Alps of Salzburg . .	8,500	Virthaller
Geyfkoff, Do. Do. . .	8,500	Do.
Eisenthaller-Spitze, Switzerland . .	8,500	Wahlenberg
Pic d' Anic, head of the Aspe and Bauton, Pyrenees, France . . .	8,486	Vidal and Reboul
Lentschitz in Transylvania	8,466	Balbi
Lomnitzer Spitze, highest peak of the Carpathian chain, Hungary . .	8,461	Wahlenberg
La Montagne de Cole, Savoy, Italian Alps	8,442	Journal des Mines
Base of the Needle of Plan, Do. . .	8,423	Do.
Mount Breven, Savoy, Do.	8,358	Saussure
Point de Pouzine, Hautes Alps, Dauphine, France	8,352	Journal of Zach
The Infernal Mountain, Do. Do. Do.	8,346	Do.
Felsenkam, near Mayenfield, between the Rhinthal and the Vorarlberg . .	8,346	Ebel
Roc Blanc, valley of Aude, French Pyrenees	8,334	Vidal and Reboul
Sneehatta, the loftiest peak of the Norwegian Alps	8,333	Esmark
Viszoka, Carpathians	8,313	Wahlenberg
Csabi, Do. . .	8,313	Do.
Hunds dorferspitze, Do. . .	8 313	Do.
Mount Tareau, Hautes Alps, Dauphine, France	8,296	Journal of Zach
Glacier, near the Aller Blanc . .	8,268	Saussure
Pass of the Furca, from the Hospice of the Reuss to the Valais, Swiss Alps . .	8,255	Keller's Map
Port de Pineda, Pyrenees . .	8,249	
Glacier of Valsovey, south side of the Valais, Italian Alps		Ebel
Brisen-Stock, north of the valley of Enghelberg, canton of Unterwald, Swiss Alps . .	8,243 8,217	Ebel
Monte Velino, Apennines, Naples .	8,195	Zach's Journal
Convent of the Grand St Bernard, highest situation in Europe, between the Valais and Aost .	8,180	U. B. de Gems
Velora, nigh Castellucio, Apennines, Naples .	8,140	Schouw
Kroncheskoi in the Uralian range .	8,133	Balbi
Faulkniss, between the Engadine and the Verarlberg, N.E. of Mayenfield . .	8,112	Ebel
Col de le Suigne, S.W. of Mont Blanc, Savoy	8,084	Journal des Mines
Puy Champoleon, Hautes Alps, Dauphine, France	8,052	Journal of Zach
Horner-Horn, Salzian Alps . .	8,052	Virthaller
Glacier of Oberaar, in the Valais . .	8,038	Saussure
Mount Krivan, Carpathians . .	8,034	Wahlenberg
Col de Bonhomme, south of the Col de Fours, Savoy, Italian Alps . . .	8,032	Saussure
Dezrut Pass, from the Medelser Thal, to the valley of Lugnetz, Grisons, Swiss Alps . .	8,022	Keller's Map

No. III.—TABLES FOR CALCULATING THE HEIGHTS OF MOUNTAINS BY THE BAROMETER.

(From the British Almanack.)

THE following tables for obtaining the heights of mountains by means of the barometer, have been constructed from those given in the *Annuaire* for the year 1830, by M. Oltmanns.

The second of the series is introduced for the purpose of obtaining more readily the parts for the second and third decimal figures, in the barometer observations. These are found answering horizontally to the corresponding difference, as given in Table I., and vertically to the parts required: the correction thus obtained being always additive.

Let h express the height of the barometer in inches at the lower station; h' that at the higher station; T and T′ the temperature shown by Fahrenheit's thermometer attached to the barometer; t and t' that of the air.

The number corresponding to h is first to be found in Table I., with the assistance of Table II., which call a; and that answering to h', found in the same manner, call b. From Table III. take the number answering to T — T′, call it c, and the approximate height will be $a - b - c$; but if T — T′ is less than 32°, it will be $a - b + c$.

In order, then, to apply to this approximated height the correction due to the change of temperature, multiply the thousandth part of it by the sum of the excess of t and t' above 32°, increased by one-ninth of itself. The correction thus obtained, which may be called d, will be positive or negative according as the sum of t and t' is greater or less than 32°. If t and t' are less than 32°, the number of degrees they are below it must be used in like manner to obtain the correction, which will then be negative.

The last correction, that for the latitude and diminution of gravity, will be obtained by seeking, in the fourth table, the number corresponding vertically to the latitude and horizontally to the approximated height. This correction is always additive.

The following example, from the *Annuaire*, will illustrate their use:

The height of Guanaxuato in Mexico, observed by M. de Humboldt—lat. 21°.

Lower station, or Level of Sea.		Barometer -	30° .015	= h.
	Fahr.	Thermometer, attached	77 .5	= T.
	Fahr.	Thermometer, detached	77 .5	= t.
Upper station.		Barometer, -	23 .659	= h'.
	Fahr.	Thermometer, attached	70 .5	= T′.
	Fahr.	Thermometer, detached	70 .5	= t'.

Table I. -	23.650	14034
Table II. -	.009	9.9
		14043.0
Table I. -	30.000	20248
Table II. - -	.010	34.4
	.005	4.3
		20286.7

Barom.	30.015	Table I.	20286.7 a
	23.659	and II.	14043.9 b
	T — T′ = 7,	Tab. III.	98.3 c
Approx. height $a - b - c$ =			6223.5
Correction d add -			580.7
			6804.2
Tab. IV., for 6804 and 21°			34.1
Height - - -			6838.3

t - 77° .5 — 32° = 45.5

t' - 70 .5 — 32 = 38.5

Sum - - - $84.0 + \frac{84}{9} = 93.3$

Then $93.3 \times \frac{6223.5}{1000} = 580.7$ correction d.

Another Table is given by M. Oltmanns, for the purpose of correcting the height obtained when the lower station is elevated above the sea; but as the correction does not at most amount to more than 6 feet, it is purposely omitted here.

TABLE I.

Barom.	Feet.	Diff.	Barom.	Feet.	Diff.	Barom.	Feet.	Diff.
14.600	1,431	90	17.400	6,017	75	20.200	9,916	65
.650	1,521		.450	6,092		.250	9,981	
.700	1,610	89	.500	6.167		.300	10,045	64
.750	1,699		.550	6,241	74	.350	10,109	
.800	1,787	88	.600	6,315		.400	10,173	
.850	1,875		.650	6,389		.450	10,237	
.900	1,963		.700	6,463		.500	10,301	
.950	2,050	87	.750	6,537		.550	10,365	
15.005	2,137		.800	6,610	73	.600	10,428	63
.050	2,224		.850	6,682		.650	10,491	
.100	2,311		.900	6,756		.700	10,554	
.150	2,397	86	.950	6,829		.750	10,617	
.200	2,483		18.000	6.902		.800	10,680	
.250	2,569		.050	6,975		.850	10,743	
.300	2,655		.100	7,047	72	.900	10,805	62
.350	2,740	85	.150	7,119		.950	10,867	
.400	2,825		.200	7,191		21.000	10,929	
.450	2,910		.250	7,263		.050	10,991	
.500	2,995		.300	7,335		.100	11,053	
.550	3,079	84	.350	7,406	71	.150	11,115	
.600	3,163		.400	7,477		.200	11,177	
.650	3,247		.450	7,548		.250	11,239	
.700	3,331		.500	7,619		.300	11,300	61
.750	3,414	83	.550	7.689	70	.350	11,361	
.800	3,497		.600	7,759		.400	11,422	
.850	3,580		.650	7,829	[illegible]	.450	11,483	
.900	3,662	82	.700	7,899		.500	11,544	
.950	3,744		.750	7,969		.550	11,605	
16.000	3,826		.800	8,038	69	.600	11,666	
.050	3,907	81	.850	8,107		.650	11,726	60
.100	3,988		.900	8,176		.700	11,786	
.150	4,069		.950	8,245		.750	11,846	
.200	4,150		19.000	8,314		.800	11,906	
.250	4,230	80	.050	8,383		.850	11,966	
.300	4,310		.100	8,451	68	.900	12.026	
.350	4,390		.150	8.519		.950	12,086	
.400	4,470		.200	8,587		22.000	12.145	59
.450	4,549	79	.250	8,655		.050	12,204	
.500	4,628		.300	8,723		.100	12,263	
.550	4,707		.350	8,791		.150	12,322	
.600	4,786		.400	8,859		.200	12,381	
.650	4.865		.450	8,926	67	.250	12,440	
.700	4,943	78	.500	8,993		.300	12,499	
.750	5,021		.550	9,060		.350	12.557	58
.800	5,099		.600	9,127		.400	12,615	
.850	5,177		.650	9,194		.450	12,673	
.900	5,255		.700	9.261		.500	12,731	
.950	5,332	77	.750	9,327	66	.550	12,789	
17.000	5,409		.800	9,393		.600	12 847	
.050	5,486		.850	9,459		.650	12,905	
.100	5,563		.900	9,525		.700	12.963	
.150	5,639	76	.950	9,591		.750	13,020	57
.200	5,715		20.000	9,656	65	.800	13,077	
.250	5,791		.050	9,721		.850	13,134	
.300	5,867		.100	9,786		.900	13.191	
.350	5.942	75	.150	9,851		.950	13.248	
23.000	13,305	57	25 750	16,257	51	28.500	18,908	46
.050	13,362		.800	16,308		.550	18,954	
.100	13,419		.850	16,359		.600	19,000	
.150	13,476		.900	16,410		.650	19,046	
.200	13,532	56	.950	16,460	50	.700	19,092	
.250	13,588		26.000	16,510		.750	19,137	45
.300	13,644		.050	16,560		.800	19,182	
.350	13,700		.100	16,610		.850	19,227	
.400	13,756		.150	16,660		.900	19,272	
.450	13,812		.200	16,710		.950	19,317	
.500	13,868		.250	16,760		29.000	19,362	
.550	13,924		.300	16.810		.050	19,407	
.600	13,979	55	.350	16,860		.100	19,452	

TABLE I.—CONTINUED.

Barom.	Feet.	Diff.	Barom.	Feet.	Diff.	Barom.	Feet.	Diff.
.650	14,034		.400	16,910		.150	19,497	
.700	14,089		.450	16,959	49	.200	19,542	
.750	14,144		.500	17,008		.250	19,587	
.800	14,199		.550	17,057		.300	19,632	
.850	14,254		.600	17,106		.350	19,676	44
.900	14,309		.650	17,155		.400	19,720	
.950	14,364		.700	17,204		.450	19,764	
24.000	14,417		.750	17,253		.500	19,808	
.050	14,471	54	.800	17,302		.550	19,852	
.100	14,525		.850	17,351		.600	19,896	
.150	14,579		.900	17,400		.650	19,940	
.200	14,632		.950	17,448	48	.700	19,984	
.250	14,687		27.000	17,496		.750	20,028	
.300	14,741		.050	17,544		.800	20,072	
.350	14,795		.100	17,592		.850	20,116	
.400	14,849		.150	17,640		.900	20,160	
.450	14,903		.200	17,688		.950	20,204	
.500	14,956	53	.250	17,736		30.000	20,248	
.550	15,009		.300	17,784		.050	20,293	43
.600	15,062		.350	17,832		.100	20,336	
.650	15,115		.400	17,880		.150	20,379	
.700	15,168		.450	17,928		.200	20,422	
.750	15,231		.500	17,976		.250	20,465	
.800	15,274		.550	18,023	47	.300	20,508	
.850	15,327		.600	18,070		.350	20,551	
.900	15,380		.650	18,117		.400	20,594	
.950	15,432	52	.700	18,164		.450	20,637	
25.000	15,484		.750	18,211		.500	20,680	
.050	15,536		.800	18,258		.550	20,723	
.100	15,588		.850	18,305		.600	20,766	
.150	15,640		.900	18,352		.650	20,809	
.200	15,692		.950	18,399		.700	20,852	
.250	15,744		28.000	18,446		.750	20,894	42
.300	15,796		.050	18,493		.800	20,936	
.350	15,848		.100	18,540		.850	20,978	
.400	15,900		.150	18,586	46	.900	21,020	
.450	15,951	51	.200	18,632		.950	21,062	
.500	16,002		.250	18,678		31.000	21,104	
.550	16,053		.300	18,724		.050	21,146	
.600	16,104		.350	18,770		.100	21,188	
.650	16,155		.400	18,816				
.700	16,206		.450	18,862				

TABLE II.

Diff.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	20.	30.	40.
90	1.8	3.6	5.4	7.2	9.0	10.8	12.6	14.4	16.2	18.0	36.0	54.0	72.0
89	1.8	3.5	5.3	7.1	8.9	10.6	12.4	14.2	16.0	17.8	35.6	53.4	71.2
88	1.7	3.5	5.3	7.0	8.8	10.5	12.3	14.0	15.8	17.6	35.2	52.8	70.4
87	1.7	3.5	5.2	6.9	8.7	10.4	12.2	13.9	15.4	17.4	34.8	52.2	69.6
86	1.7	3.4	5.2	6.9	8.6	10.3	12.0	13.7	15.5	17.2	34.4	51.6	68.8
85	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17.0	34.0	51.0	68.0
84	1.7	3.4	5.0	6.7	8.4	10.0	11.7	13.4	15.1	16.8	33.6	50.4	67.2
83	1.7	3.3	5.0	6.6	8.3	9.9	11.6	13.3	14.9	16.6	33.2	49.8	66.4
82	1.6	3.3	4.9	6.6	8.2	9.8	11.5	13.1	14.7	16.4	32.8	49.2	65.6
81	1.6	3.2	4.9	6.5	8.1	9.7	11.3	12.9	14.5	16.2	32.4	48.6	64.8
80	1.6	3.2	4.8	6.4	8.0	9.6	11.2	12.8	14.4	16.0	32.0	48.0	64.0
79	1.6	3.2	4.7	6.3	7.9	9.5	11.0	12.6	14.2	15.8	31.6	47.4	63.2
78	1.6	3.1	4.7	6.2	7.8	9.3	10.9	12.5	14.0	15.6	31.2	46.8	62.4
77	1.5	3.1	4.6	6.2	7.7	9.2	10.7	12.3	13.8	15.4	30.8	46.2	61.6
76	1.5	3.0	4.6	6.1	7.6	9.1	10.6	12.1	13.7	15.2	30.4	45.6	60.8
75	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	15.0	30.0	45.0	60.0
74	1.5	3.0	4.4	5.9	7.4	8.8	10.3	11.8	13.3	14.8	29.6	44.4	59.2
73	1.5	2.9	4.4	5.8	7.3	8.7	10.2	11.7	13.1	14.6	29.2	43.8	58.4
72	1.4	2.9	4.3	5.8	7.2	8.6	10.1	11.5	12.9	14.4	28.8	43.2	57.6
71	1.4	2.8	4.3	5.7	7.1	8.5	9.9	11.3	12.7	14.2	28.4	42.6	56.8

TABLE II.—CONTINUED.

Dist.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	20.	30.	40.
70	1.4	2.8	4.2	5.6	7.0	8.4	9.8	11.2	12.6	14.0	28.0	42.0	56.0
69	1.4	2.8	4.1	5.5	6.9	8.3	9.6	11.0	12.4	13.8	27.6	41.4	55.2
68	1.4	2.7	4.1	5.4	6.8	8.1	9.5	10.9	12.2	13.7	27.2	40.8	54.4
67	1.3	2.7	4.0	5.4	6.7	8.0	9.4	10.7	12.0	13.4	26.8	40.2	53.6
66	1.3	2.6	4.0	5.3	6.6	7.9	9.2	10.5	11.8	13.2	26.4	39.6	52.8
65	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13.0	26.0	39.0	52.0
64	1.3	2.6	3.8	5.1	6.4	7.7	8.9	10.2	11.5	12.8	25.6	38.4	51.2
63	1.3	2.5	3.8	5.0	6.3	7.5	8.8	10.1	11.3	12.6	25.2	37.8	50.4
62	1.2	2.5	3.7	5.0	6.2	7.4	8.7	9.9	11.1	12.4	24.8	37.2	49.6
61	1.2	2.4	3.7	4.9	6.1	7.3	8.5	9.7	11.0	12.2	24.4	36.6	48.8
60	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	24.4	36.0	48.0
59	1.2	2.4	3.5	4.7	5.9	7.1	8.2	9.4	10.6	11.8	23.6	35.4	47.2
58	1.2	2.3	3.5	4.6	5.8	6.9	8.1	9.2	10.4	11.6	23.2	34.8	46.4
57	1.1	2.3	3.4	4.6	5.7	6.8	7.9	9.1	10.2	11.4	22.8	34.2	45.6
56	1.1	2.2	3.4	4.5	5.6	6.7	7.8	8.9	10.1	11.2	22.4	33.6	44.8
55	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8.8	9.9	11.0	22.0	33.0	44.0
54	1.1	2.2	3.2	4.3	5.4	6.5	7.5	8.6	9.7	10.8	21.6	32.4	43.2
53	1.1	2.1	3.2	4.2	5.3	6.3	7.4	8.5	9.5	10.6	21.2	31.8	42.4
52	1.0	2.1	3.1	4.2	5.2	6.2	7.2	8.3	9.3	10.4	20.8	31.2	41.6
51	1.0	2.0	3.1	4.1	5.1	6.1	7.1	8.1	9.2	10.2	20.4	30.6	40.8
50	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	20.0	30.0	40.0
49	1.0	2.0	2.9	3.9	4.9	5.9	6.8	7.8	8.8	9.8	19.6	29.4	39.2
48	1.0	1.9	2.9	3.8	4.8	5.7	6.7	7.7	8.6	9.6	19.2	28.8	38.4
47	0.9	1.9	2.8	3.8	4.7	5.6	6.6	7.5	8.4	9.4	18.8	28.2	37.6
46	0.9	1.8	2.8	3.7	4.6	5.5	6.4	7.3	8.3	9.2	18.4	27.6	36.8
45	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	18.0	27.0	36.0
44	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	17.6	26.4	35.2
43	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.9	7.7	8.6	17.2	25.8	34.4
42	0.8	1.7	2.5	3.4	4.2	5.0	5.9	6.7	7.5	8.4	16.8	25.2	33.6

TABLE III.

Ther.	Feet.	Ther.	Feet.	Ther.	Feet.	Ther.	Feet.
0.5	1.3	9.5	25.2	18.5	49.5	27.5	73.8
1.0	2.7	10.0	26.7	19.0	51.0	28.0	74.9
1.5	4.1	10.5	28.1	19.5	52.4	28.5	76.3
2.0	5.4	11.0	29.3	20.0	53.7	29.0	77.6
2.5	6.9	11.5	30.8	20.5	55.1	29.5	79.1
3.0	7.8	12.0	32.1	21.0	56.4	30.0	80.4
3.5	9.3	12.5	33.5	21.5	57.5	30.5	81.8
4.0	10.5	13.0	34.7	22.0	58.9	31.0	83.0
4.5	12.0	13.5	36.2	22.5	60.2	31.5	84.7
5.0	13.4	14.0	37.7	23.0	61.7	32.0	86.0
5.5	14.9	14.5	38.9	23.5	63.0	32.5	87.1
6.0	16.1	15.0	40.4	24.0	64.4	33.0	88.6
6.5	17.4	15.5	41.3	24.5	65.6	33.5	89.9
7.0	18.8	16.0	42.8	25.0	67.1	34.0	91.3
7.5	20.0	16.5	44.0	25.5	68.4	34.5	92.3
8.0	21.6	17.0	45.5	26.0	69.8	35.0	93.7
8.5	23.0	17.5	46.9	26.5	71.2	35.5	95.2
9.0	24.2	18.0	48.0	27.0	72.5		

TABLE IV.

Feet.	0.	5°.	10°.	15°.	20°.	25°.	30°.	35°.	40°.	45°.	50°.	55°.	60°.
500	3.0	3.0	3.0	2.4	2 5	2.5	1.8	1.9	1.4	1.5	1.7	1.0	0.8
1,000	5.9	5.9	5.9	5.3	5.0	5.0	4.3	4.2	3.4	3.0	2.7	2.0	1.4
1,500	8.8	8.8	8.8	8.2	7.6	7.4	6.7	6.2	5.2	4.5	3.8	3.0	2.2
2,000	11.3	11.3	11.3	10.7	10.0	9.4	8.6	7.9	6.7	6.0	5.2	3.9	2.8
2,500	14.0	14.0	14.0	13.4	12.7	11.9	10.9	9.7	8.7	7.4	6.3	5.3	4.2
3,000	16.9	16.9	16.9	16.0	15.3	14.3	13.0	11.5	10.3	9.2	7.7	6.5	5.2
3,500	20.1	20.1	19.9	18.6	17.7	16.8	15.0	13.4	12.0	10.8	9.1	7.6	6.2
4,000	23.4	23.4	22.7	21.4	20 0	19.8	17.0	15.3	13.9	12.2	10.4	8.6	7.0
4,500	26.4	26.4	25.7	24.4	22.8	21.6	19.5	17.3	15.4	13.5	11.6	9.6	7.8
5,000	28.9	28.9	28.2	27.2	25.5	23.8	21.8	19.3	17.4	14.9	12.8	10.6	8.6
5,500	31.8	31.8	31.1	30.2	28.5	26.3	24.3	21.3	19.3	16.5	14.1	11.7	9.5
6,000	34.7	34 6	33.9	32.7	31.3	28.7	26.6	23.4	21.0	18.0	15.3	12.7	10.3
6,500	37.7	37.4	36.9	35.7	33.8	31.2	28.5	25.3	22.8	19.5	16.5	13.6	11.1
7,000	40.7	40.1	39.8	38.5	36.4	33.6	30.8	27.3	24.3	11.0	17.8	14.6	11.9
7,500	43.7	43.3	43.0	41.4	39.0	36.1	33.1	29.3	26.1	22.5	19.0	15.8	12.7
8,000	46.6	46.6	46.0	44.4	41.7	38 6	35.3	31.5	28.1	24.1	20.5	17.0	13.7
8,500	49.6	49.6	49.0	47.0	44.4	41.1	37.8	34.2	30.1	26.1	22.2	18.2	14.7
9,000	53.1	52.9	52.5	50.0	47.4	43.6	40.3	36.5	32.1	28.1	23.7	19.7	15.9
9,500	56.4	56.2	55.8	53.1	50.2	46.2	42.9	38.6	33.8	29.8	25.2	21.0	17.1
10,000	59.7	59.1	58.7	56.1	52.8	48.8	45.4	40.7	36.0	21.4	26.7	22.0	17.9
10,500	62.7	62.0	61.3	59 0	55.7	51.5	47.9	43.0	37.7	33.1	28.2	23.0	18.7
11,000	66.1	65.5	64.9	62.3	59.2	54.4	50.6	45.5	40.0	35.1	29.7	24.7	19.1
11,500	69.4	68.9	68.1	65.3	62.3	57.4	53.2	47.8	42.4	36.8	31.2	26.2	21.9
12,000	72.7	72.3	71.3	68.0	65.3	60.1	55.7	50.1	44.8	38.8	32.8	27.4	22.1
12,500	75.9	75.3	74.3	71.0	67.8	62.9	58.2	52.4	47.0	30.6	34.3	28.4	23.1
13,000	79.8	79.2	77.6	74.3	71.0	65.9	60.7	55.0	49.0	42.5	38.2	30.3	24.5
13,500	83.1	82.5	81.2	77.7	73.8	69.0	63.6	57.6	51.0	44.6	38.2	32.2	26 1
14,000	86.7	88.0	84.6	81.4	76.9	72.3	66.6	60.2	53.3	47.0	40.3	33.9	27.6
14,500	90.6	90.0	88.3	85.1	80.1	75.8	69.6	63.1	55.8	40.5	42.6	35.8	29.0
15,000	94.1	93 5	91.8	88.3	83.4	79.1	72.6	66.0	58.5	51.8	44.3	37.4	30.6
15,500	97.8	97.2	95.3	91.6	86.8	81.9	75.4	68.6	61.0	53.7	46.0	38.9	32.0
16,000	101.5	100.9	98.7	95.0	90.5	85.3	78.2	71.2	63.5	55.7	47.8	40.5	33.4
16,500	104.9	104.3	101.9	98.3	93.8	88.2	81.2	73.7	65.7	57.5	49.5	42.0	34.7
17,000	107.6	107.2	104.9	101.3	97.0	91.4	84.0	76.1	67.9	59.4	51.3	43.5	36.0
17,500	111.1	110.4	108.5	104.8	99.8	94.5	86.5	78.6	70.2	61.7	53.0	45.0	37.3
18,000	114 5	113.8	111.9	108.2	102.8	97.2	89.1	81.1	72.5	64.0	54.9	46.4	38.4
18,500	118.0	117.3	115.0	111.4	106.0	99.8	91.9	83.6	74.8	65.8	56.8	48.0	39.5
19,000	121.5	120.9	118.2	114.6	108.7	102.5	94.6	86.2	77.3	67.8	58.3	49.4	40.8
19,500	125.0	124.4	121.7	117.9	111.5	105.1	97.4	88.7	79.8	69.8	60.1	51.0	42.1

No. IV.—A COMPARATIVE TABLE

Of Itinerary and Topographical Measures, considered, first, as measures of distance in their relation to a degree (nonagesimal) of the equator; to a geographical French league, of 25 to a degree; and to the kilometre (1,000 metres); and, secondly, as measures of superficial extent in their relation to geographical square leagues of Germany (15 to a degree), of square leagues of France (25 to a degree), and to a square kilometre.

ITINERARY PROPORTIONS.			MEASURES.	TOPOGRAPHICAL PROPORTIONS.		
				Square Leagues.		Square Kilometres.
To an equatorial degree.	Leagues of 25 to a degree.	Kilometres.		Fifteen to a degree.	Twenty-five to a degree.	
12	2.08353	9.27083	Great Meile of Germany,	1.5625	4.3389	85.951
15	1.666	7.41666	Common, or Geographical Meile,	1.	2.777	53.004
17.75	1.4084	6.2676	Small Meile,	0.714	1.987	39.2753
69.5	0.3616	1.6094	Mile of England,	0.0471	0.13075	2.5889
60	0.4167	1.8542	Mile, Geographical, of ditto,	0.0625	0.17363	3.4373
20	1.25	5.5625	League, Marine, of ditto,	0.5625	1.5625	30.9357
33	0.7576	3.371.	Lieue of Anjou,	0.2066	0.5739	11.3636
57.125	0.4371	1.9449	League of Arabia,	0.0687	0.191	3.78
28	0.8929	3.9732	Lieue of Artois,	0.2868	0.7973	15.785
17.333	1.4423	6.4183	Lieu, Astronomical,	0.7489	2.079	41.2
105.6	0.2367	1.0535	Pfase of Batavia and of Java,	0.02018	0.005602	1.109
26.397	0.9471	4.2145	Horaire of ditto,	0.3229	0.897	17.759
16.087	1.55405	6.9155	League of ditto,	0.8694	2.4119	47.823
33	0.7576	3.371	Lieue of Beauce,	0.2066	0.5739	11.3636
26	0.9615	4.2788	Lieue of Berry,	0.3328	0.9245	18.308
16	1.5625	6.953	Meile of Bohemia,	0.8789	2.44	48.344
21.521	1.1617	5.1693	Lieue of Burgundy,	0.4858	1.3502	26.7186
20	1.25	5.5625	Meile of Brabant,	0.5625	1.5625	30.9114
17	1.4706	6.5441	League of Brazil,	0.7785	2.1638	42.8239
33	0.7576	3.371	Lieue of Bretagne,	0.2066	0.5739	11.3636
28	0.8929	3.9732	League of Cayenne,	0.2868	0.7973	15.7847
28.54	0.8759	3.898	League of Canada,	0.2762	0.7672	15.1914
35	0.71429	3.17857	League of the Carnatic, (Hindostan,)	0.1837	0.5102	10.1
192.4	0.1299	0.5782	Li of China,	0.006078	0.01687	0.3343
11	2.2727	10.1136	Gros or Gau of Coromandel,	1.859	5.1663	102.2856
14.77	1.6926	7.5321	Mile of Denmark,	1.0315	2.866	56.731
12.333	2.027	9.002	Meile of Dresden of Saxony,	1.479	4.1087	81.036
28.54	0.8759	3.898	Lieue, Post (12,000 feet) of France	0.2762	0.7672	15.1944
25	1	4.45	Lieue, geogr. or common,	0.36	1	19.8025
20	1.25	5.5625	Lieue, marine of ditto,	0.5625	1.6625	30.9414
22.25	1.1236	5	Lieue, mean of ditto,	0.1544	1.2633	25
11.125	2.2472	10	Myriametre, or new great league,	1.818	5.049	100
11.25	0.2247	1	Kilometre, or new small league,	0.01818	0.05049	1
19.025	1.3139	5.8476	Lieue of Gascogne,	0.6216	1.7266	34.194
26.838	0.9315	4.1452	League of Guiana,	0.3124	0.8677	17.181
	1.3158	5.855	Meile of Holland,	0.6232	1.7319	34.281
13.333	1.875	8.31375	Meile of Hungary,	1.266	3.5159	69.622
42.75	0.5848	2.6023	Coss or Coru of Hindostan,	0.1231	0.342	6.7718
10	0.625	2.78125	Mile of Ireland,	0.1416025	0.3907	7.635
3	8.333	37.0833303	Tingmannaleid of Iceland,	2.5	69.444	1375.1736
9	2.777	12.3601	Mil, marine of ditto,	2.778	7.716	152.797
12	2.0833	9.2708	Mil, common of ditto,	1.5625	4.3389	85.96
58.48	0.4275	1.9024	Lega of Bologna, Italy,	0.06579	0.1828	5.619
67.25	0.3718	1.65427	Lega of Milan,	0.04975	0.1383	2.7366
57.71	0.4332	1.9277	Lega of Naples,	0.06756	0.1877	3.716
74.7	0.3347	1.4719	Lega of the Roman States,	0.0403	0.1121	2.1667
68.25	0.3663	1.62967	Lega of Tuscany,	0.0483	0.1342	2.6558
60.62	0.4124	1.8352	Lega of Venice,	0.06123	6.17009	3.368
12.44	2.001	8.9429	Meile of Lithuania,	1.454	4.004	79.977
28	0.8929	3.9732	Meile of Luxembourg,	0.2868	0.79727	15.7847
23	1.087	4.83696	*Lieue of Lyons,*	0.4253	1.18157	23.396
10	2.5	11.125	*Gros or Gau of Malabar,*	1.25	6.25	123.7656
17	1.47066	6.5441	League of the Mysore,	0.7786	2.164	42.824
10	2.5	11.125	Mile of Norway,	2.25	6.25	123.7656
24	1.0417	4.6354	Lieue of Perche, (in France,)	0.3906	1.0857	21.491
12.5	2	8.9	Parasange of Persia,	1.44	4	79.21
48	0.5208	2.3177	Lega of Piedmont,	0.09766	0.27123	5.373
24	1.0417	4.6354	Lieue of Poitou,	0.3906	1.0857	21.491
20	1.25	5.5625	League of Poland,	0.5625	1.5625	30.9414
18	1.3889	6.18056	Legua of Portugal,	0.6944	1.9293	38.199
14.37	1.7328	7.7483	Meile of Prussia,	1.089	3.003	60.045
19.025	1.3139	5.8476	Lieue of Provence,	0.6216	1.7266	34.194
104.25	0.2396	1.06714	Werste, common of Russia,	0.0207	0.05741	1.1385
104.716	0.23874	1.0624	Werstefixed, of Russia,	0.0205	0.057	1.1278
110.4	0.22645	1.0077	Werste of M. Trescot of Russia,	0.0192	0.05128	1.014
17.453	1.43244	6.3744	Mile, geographical, of 6 werstes,	0.7387	2.05	40.63
12.29	2.0342	9.0521	Meile of the Police of Saxony,	1.49	4.1371	81.939
50	0.5	2.225	Mile of Scotland,	0.09	0.25	4.9506
28.942	0.8638	3.8438	Roe-ning of Siam,	0.2686	0.74615	14.77
17.18	1.4552	6.475	Meile of Silesia,	0.7623	2.117	41.93
16.4	1.5	6.675	Legua nueva of Spain,	0.8117	2.25	4[illegible]5556
20	1.25	5.5625	Legua horaria of Spain,	0.5625	1.5625	30.9414
26.4	0.9375	4.17187	Legua juridica of Spain,	0.3164	0.8789	17.4056
10.4	2.4038	10.6971	Mile of Sweden,	2.08	5.7792	114.45
10	2.5	11.225	Gos or Gau of Surat,	2.25	6.25	123.7656
26.838	0.9315	4.1452	League of Surinam,	0.3124	0.8677	17.181
66.4	0.375	1.6687	Berri of Turkey,	0.05062	0.1406	2.786
28.537	0.8761	3.8985	Lieue of Touraine,	0.2763	0.7676	15.195
10	2.5	11.225	Meile of the Circle of Westphalia,	2.25	6.25	123.76525

No. V.—COMPARATIVE VIEW

OF LINEAR MEASURES, CALLED (OR EQUIVALENT TO) FEET.

States and Towns.	Measures.	Lines.	Decimetres.
Amsterdam	Voet	125.5	2.83
Augsbourg	Stadt, or Werk-Schu	131.3	2.97
Bale	Stadt, or Feldt-Schu	132.2	2.98
Batavia	Voet	139.1	3.14
Berlin	Fuss of Berlin	137.3	3.10
	of the Rhine	139.1	3.14
Brabant	Fuss	126.6	2.86
Cadix	Pie	125.3	2.83
China	Foot of the Merchants	150	3.38
	Mathematical foot	147.7	3.35
	Ché or Carpenter's foot	143.1	3.23
	Land-surveyor's foot	141.7	3.19
Copenhagen	Fod	139.1	3.14
Cracovia	Foot	158	3.56
Dantzick	Fuss	127·2	2.86
Dauphiné	Pied	151·1	3.41
Dijon	Pied	139·2	3.15
Dresden	Fuss	125·5	2.83
France	Pied de Roi	144	3.25
	Decimetre	44.33	1
Frankfort on the Maine	Fuss	127	2.86
Franche Comté	Pied	158.3	3.57
Genoa	Palmo	111·3	2.51
Hamburgh	Fuss of Hamburgh	127	2.86
	of the Rhine	139 1	3.14
Leipzic	Fuss	125.3	2.83
Lisbon	Palmo	96.9	2.18
London	Foot	135	3.05
Lorraine	Pied	129.2	2.92
Lubeck	Fuss	129	2.98
Madrid	Codo	187.9	4.23
	Pies	125.3	2.83
	Palmo great	93.97	2.11
	small	31 32	0.70
Malacca	Common Foot	139.1	3.14
	Carpenter's Foot	127.5	2.87
Messina	Palmo	107.3	2.42
Milan	Palmo	176	3.97
Munich	Fuss	128.2	2.89
Naple	Palmo	116.5	2.63
Normandy	Pied	132	2.98
Norway	Fod	139·1	3.15
Nuremberg	Stadt-Schu of Carpenters	134·7	3·03
	Werk-Schu of Masons	123·6	2·78
Padua	Palmo	189·9	4·28
Paris	Pied de Roi	144	3·25
Palermo	Palmo, ancient	107·3	2.42
Prague	Fuss of Bohemia	131·4	2·97
	of Moravia	131·2	2·96
Riga	Fuss	125·5	2·74
Rome	Palmo	130.6	2·94
Russia	Foot	135	3·05
Sardinia	Palmo	110.1	2·48
Sweden	Fodt	131.6	2·97
Switzerland	Fuss	133	3.00
Stuttgard	Fuss	126.8	2.85
Turin	Palmo	227.7	5.13
Venice	Palmo	153.7	3 46
Vienna	Fuss	143	3·23
Warsaw, duchy of,	Fuss	158	3·56

No. VI.—GOLD AND SILVER FOREIGN COINS.

(From the British Almanack for 1830.)

A KNOWLEDGE of the relative value of foreign coins is highly important to commercial men, and to the traveller. In the following table of the different coins used among the various nations with which England has intercourse, will be found their corresponding value in English money. The method of obtaining this result is founded upon the following principle. In a coin we consider the weight and standard. By standard is meant the proportion of pure gold or silver which it contains: the rest is alloy. Thus, if we suppose a coin to contain a thousand parts of metal, of which 917 are pure gold or silver, the 83 remaining parts being alloy, the 917 represent the standard, or relative purity of the coin.

Suppose we wish to know what is the value, in English money, of the Russian imperial of 10 rubles: the weight is 13.073 gram., the standard at 917; deducting the alloy, that is, 1.08 gram., there remain, in pure gold, 11.988 grammes.

The English sovereign weighs 7.9808 gram., the standard is at 917, the alloy consequently 0.662 gram., and the weight of pure gold contained in it 7.3184 gram.

Now, by the Rule of Three, the question will thus be resolved:

7.318 gram. : 11.988 gram. : : 20 shillings : = £1 12s. 9d.

By this method, we can ascertain the relative value of all coins; but sometimes the value thus ascertained will not exactly agree with the sum allowed in exchange. This difference arises from political causes and commercial vicissitudes. Thus, for instance, the value at par of the sovereign in French money, is 25 fr. 26 c., yet it rose to 25 fr. 50 c. in the month of August last, after the change of the French ministry. This fall and rise, in the relative value of money, principally takes place whenever there is a paper currency.

A general Table of the Gold and Silver Coins of different countries, giving their national denominations and value, weight in dwts. and grammes,[1] the number of parts of pure metal which they contain, and their value in English money.

1. AUSTRIA AND BOHEMIA.

National Denominations.	dwt.	grs.	grammes.	Standard.	Eng. Value. £	s.	d.
	Gold.						
Emperor's Ducat	2	5¼	3.491	986	0	9	5
Hungarian Ducat	2	5¼	3.491	990	0	9	5¼
Half-Sovereign	3	7½	5.567	917	0	14	9
Quarter-Sovereign	1	15¼	2.7835	917	0	7	4½
	Silver.						
Crown, since 1753	18	1	28.064	833	0	4	1½
Half Rix-dollar, or Florin	9	0½	14.032	833	0	2	0¼
20 Kreutzers	4	6½	6.682	583	0	0	8¼
10 Ditto	2	3¼	3.341	500	0	0	4
	2. BADEN.						
	Gold.						
Piece of 2 Florins	4	9	6.800	901	0	16	8¼
1 Florin	2	4½	3.400	901	0	8	4⅛
	Silver.						
Piece of 2 Florins	16	2	25.450	750	0	3	3¼
1 Florin	8	1	12.725	750	0	1	3¼
	3. BAVARIA.						
	Gold.						
Carolin	6	5¼	9.744	771	1	0	4¼
Maximilian	4	4	6.496	771	0	13	7⅛

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[1] The weight of the coins has been given both in *grammes* and in dwts. It is very easy for any one to convert grammes into dwts., by means of the Rule of Three, knowing that 1 lb. troy weight, or 200 dwts., are equal to 373.095 grammes.

Silver.

	dwt.	grs.	grammes.	Standard.	Eng. Value. £	s.	d.
Crown	18	2	29.313	868	0	4	6
Rix-dollar of 1800	17	12	27.513	833	0	4	[illegible]
Teston, or Kopfstuck	4	6½	6.643	583	0	0	8½

4. DENMARK.

Gold.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Ducat current since 1767	2	0	3.143	875	0	7	6
Ducat specie, 1791 to 1802	2	6¼	3.519	979	0	9	4½
Christian, 1773	4	7	6.735	903	0	16	7
Silver.							
Rix-dollar, or Double Crown, of the value of 96 Danish Shillings of 1776	18	14	29.126	875	0	4	6
Rix-dollar, or Piece of 6 Danish Marks of 1750	17	6	26.800	833	0	4	0
Danish Mark of 16 Shillings of 1776	4	0	6.286	688	0	0	7½

5. FRANCE.

The money unit in France is the *franc,* which, according to the decimal system, is divided into 100 parts, called *centimes.* In government accounts and legal deeds, all sums must be expressed in francs and centimes; but among the people, and in the purchase of goods sold by retail, and in small quantity, the denomination of *sous* is still in use. This practice does not create confusion, because the *sou* is a multiple of the *centime,*—that is, there are 20 sous to the franc, and each contains 5 cent. The 2 sous piece may also be called *decime,* or tenth of a *franc.*

Although the *franc* and the *livre tournois* now appear to be of equal value, there is, however, a slight difference in favour of the franc:—100 fr. = 101 livres 5 sous.—Hence, if an individual had to discharge a debt contracted previously to the year VIII. of the Republic, and stipulated in livres tournois, he would be entitled, in making his payment in francs, to a deduction in the proportion above-mentioned. Formerly the livre tournois was the money unit of France. Its value has varied much, although it has retained the denomination which, originally, was the expression of its nature. Under Charlemagne, in the 9th century, its weight was 12 ounces, or 1 lb. troy weight, and its value 78 liv. 17 sous of present money. The weight and value progressively decreased down to the time of Louis XV., when it only amounted to 8 sous. Under Louis XVI, it rose again to 20 sous.

Besides the new coinage issued during the Republic, under the empire, and since the Restoration, the old one is still in circulation. There is, however, but little of it extant. The value of the silver pieces has not only been reduced in 1810, as will be seen here, but the pieces of 24, 12, and 6 sous are not to be taken in payment, except they have preserved some part of the stamp (empreinte); consequently, all those which were defaced have been withdrawn from circulation.

There is also in France a coin composed of copper and silver, in the proportion of 4 to 1, called *billon,* and denominated by the people "monnaie grise." Before the Revolution, there were of this mixture, pieces of *six liards,* (the French sou being divided into four liards,) and of two sous and a half, called *pieces of six blancs:* there are few of this value now extant, but there are pieces of 2 sous, or *decimes.*

NEW COIN.

Gold.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
20 Franc piece	4	3½	6.4516	900	0	15	10½
40	8	7	12.9032	900	1	11	8½
Silver (argent blanc.)							
5 Franc piece	16	1	25.000	900	0	4	0
2	6	11	10.000	900	0	1	7
1	3	5½	5.000	900	0	0	9½
½, or 50 centimes	1	15	2.500	900	0	0	4¼
¼, or 25 centimes	0	18½	1.250	900	0	0	2¼
Billon (monnaie grise.)							
Piece of 0 or 10 centimes					0	0	0¼ 80
Copper, old and new.							
Décime, or 2 sous					0	0	0¾.80
Sou, or 5 centimes							
Sou, or 1 centime							

Value of the Old Coin in Francs.

	Livres.		fr.	c.	dwt.	grs.	grammes.		£	s.	d.
Louis of	24	=	23	55	4	22	7.619	901	0	18	8½
Double do.	48	=	47	29	9	20	15.297	901	1	17	4¾
Silver.											
Ecu, or piece of	6	=	5	80	18	18	29.488	906	0	4	7½
Petit écu, or do.	3	=	2	75	9	9	14.744	906	0	2	2¼
Piece of	24 sous	=	1	0	3	20	5.897	supposed at 906	0	0	9½
Do.	12 sous	=	0	50	1	22	2.948		0	0	4¾
Do.	6 sous	=	0	25	0	23½	1.474		0	0	2⅜
Do.	30 sous	=	1	50	6	12	10.136	660	0	1	2½
Do.	15 sous	=	0	75	3	6	5.068	660	0	0	7½

6. Hamburgh.

Gold.

	dwt.	grs.	grammes.	Standard.	Eng. Value. £	s.	d.
Ducat ad Legem Imperii	2	5¾	3.491	986	0	9	4¾
New Town Ducat	2	5¾	3.488	979	0	9	4

Silver.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Mark Banco (imaginary)					0	1	5¼
16 Shilling Piece, Convention	5	20	9.164	750	0	1	2½
Rix-dollar Specie	18	18	29.233	889	0	4	7

Holland and the Netherlands.

Gold.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Ducat	2	5¾	3.512	986	0	9	5½
Ryder	6	10½	9.988	920	1	5	1¼
20 Florins, 1808	9	7¾	13.659	917	1	14	2¾
10 Florins	4	15⅞	6.829	917	0	17	1½
10 Williams, 1818	4	7½	6.700	900	0	16	5½

Silver.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Florin	6	22	10.597	917	0	1	8½
Escalin (6 sous)	3	4⅚	4.976	583	0	0	6
Ducaton, or ryder	20	22	32.750	941	0	5	5
Ducat, or rix-dollar	18	6	28.230	873	0	4	4

The Florin is divided into 20 sous, and the sou into 5 cents.

8. Japan.

Gold.

	£	s.	d.
Old Kobang of 100 Mas.	2	7	3
Half ditto	1	3	7½
New Kobang	1	5	11
Half ditto	0	12	10½

Silver.

	£	s.	d.
Tigo gin of 40 Mas.	0	11	5
Half Ditto	0	5	8½
One-fourth Ditto	0	2	10¼
One-eighth Ditto	0	1	5

It has not been possible to ascertain the legal weight and title of these coins. Their value is, therefore, only approximate.

9. Lombardo-Venetian.

Gold.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Sovereign, 1823	8	18	11.332	900	1	7	1
Half Ditto	4	9	5.666	900	0	13	6½

Silver.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Crown	17	7¼	25.986	900	0	4	1½
Half-Crown, or Florin	8	15⅝	12.993	900	0	2	0¾
Austrian Livre	2	18⅔	4.331	900	0	0	8¼

10. Mogul (East Indies).

Gold.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Mohur of Bengal	7	23		993	1	13	8
Ditto of Bombay	7	10½		953	1	10	1
Gold Rupee, Bombay	7	11		922	1	9	2
Ditto Madras	7	12		916	1	9	3
Star Pagoda, Madras	2	4½		792	0	7	6

Silver.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Rupee, Sicca	7	12		979	0	2	0½
Ditto Arcott	7	9		941	0	1	11¼
Ditto Bombay	7	11		926	0	1	11
Ditto Broach	7	10		883	0	1	9

11. Naples.

Gold.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
New Ounce of 3 Ducats	2	10¼	3.786	996	0	10	5¾

Silver.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
12 Carlini, 1804	17	15	27.533	833⅓	0	4	1½
Ducat of 10 Carlini, 1784	14	16	22.810	839½	0	3	4¼
2 Carlini, 1804	2	22	4.588	833⅓	0	8	0
1 Ditto, 1804	1	11	2.294	833⅓	0	0	4
Ducat of 10 Carlini, 1818	14	18	22.943	833	0	3	4¼

12. Papal States.

Gold.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Pistola of Pius VI. and VII.	3	12⅓	5.471	916⅔	0	13	11¼
Half Ditto	1	18⅙	2.735	916⅔	0	6	11½
Zecchino, 1769	2	4½	3.426	1000	0	9	4½
Half, Ditto	1	2¼	1.713	1000	0	4	8¼

	dwt.	grs.	grammes.	Standard.	Eng. Value. £	s.	d.
Silver.							
Crown of 10 Paoli	17	1	26.437	916⅔	0	4	3¼
Testone of 3 Paoli	5	2	7 932	Do.	0	1	3¼
— 20 Paoli	3	10	5 287	...	0	0	10½
Paolo	1	17	2.644	...	0	0	5¼

The paolo is divided into 10 bajocchi; the crown into 10 paoli.

13. PARMA.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Gold.							
Zecchino	2	5¼	3.468	1000	0	9	5⅝
Pistola of 1784	4	19⅝	7.498	891	0	18	3
— of 1786	4	14	7.141	891	0	17	4½
40 Lire of Maria Louisa since 1815	8	7¾	12.903	900	1	11	9
20 Ditto	4	3⅞	6.451	900	0	15	10½
Silver.							
Ducat of 1784	16	11	25.707	906	0	4	1¼
Piece of 3 Lire	2	8¾	3.672	833	0	0	6½
5 Lire of Maria Louisa	16	0	25.000	900	0	3	11½

14. PERSIA.

		£	s.	d.
Gold.				
Rupee	The weight and title have not been ascertained.	1	9	1¾
Half Ditto		0	14	6¾
Silver.				
Double Rupee of 5 Abassis		0	3	10½
Rupee		0	1	11½
Abassi		0	0	9
Mamoudi		0	0	4½
Larin		0	0	9½

15. PORTUGAL.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Gold.							
Lisbonine, or Moidore of 4800 reis	6	22	10.752	917	1	6	11¼
Half Ditto of 2400 reis	3	11	5.376	917	0	13	5½
Quarter ditto of 1200 reis	1	17½	2 688	917	0	6	8¼
Portuguese, or Moiadobra of 6400 reis	9	5⅓	14.334	917	1	15	11
Half Portuguese of 3200 reis	4	14⅔	7.167	917	0	17	10½
Piece of 16 Testons, or 1600 reis	2	7⅓	3.583	917	0	8	11¼
Do. of 12 Tes. or 1200 reis	1	17½	2.538	917	0	6	4½
Do of 8 Tes. or 800 reis	1	3⅔	1.792	917	0	4	5½
Cruzada of 480 reis	0	16¼	1.015	917	0	2	7¾
Silver.							
New Cruzada of 480 reis	9	1	14.653	903	0	4	11

16. PRUSSIA.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Gold.							
Ducat	2	5¼	3.491	979	0	9	4
Frederick	4	7	6.689	903	0	16	6
Half Ditto	2	3¼	3.315	903	0	8	3
Silver.							
Rix-dollar, or thaler of 30 Silbergroschen of 1823	14	6½	22.272	750	0	2	11¼
Piece of 5 Silbergroschen	2	9	3.712	750	0	0	5½
Silbergros	....		2.192	208	0	0	0¼

17. RAGUSA.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Silver.							
Ragusa, or Talaro	18	22	29.400	600	0	3	0
Half Ditto	9	11	14.700	600	0	1	6
Ducat	8	19	13.666	450	0	1	1
12 Grossettes	2	9½	4.110	450	0	0	4
6 Ditto	1	4¾	2.070	450	0	0	2

18. RUSSIA.

	dwt.	grs.	grammes.	Standard.	£	s.	d.
Gold.							
Ducat from 1755 to 1763	2	5¼	3.495	979	0	9	4¼
— of 1763	2	5¼	3.473	969	0	9	2¼
Imperial of 10 Rubles, from 1755 to 1763	12	19	16.585	917	2	1	6½
Half Ditto	6	9½	8.293	917	1	0	9¼
Imperial of 10 Rubles since 1763	7	17¾	13 073	917	1	12	9
Half Ditto	3	20⅓	6.536	917	0	16	4½
Silver.							
Ruble of 100 Copecks from 1750 to 1762	18	1	25.870	802	0	3	7
Ditto from 1763 to 1807	15	10	24.011	750	0	3	2

19. SARDINIA.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
Gold.							
Carlin, since 1768	10	7¾	16.056	892	1	19	1
Half Ditto	5	2⅞	8.028	892	0	19	6
Pistola	5	10¼	9.118	906	1	2	6½
Half Ditto	2	17⅛	4.559	906	0	11	3¼
Silver.							
Crown, since 176[illegible]	15	2½	23:590	896	0	3	8¼
Half-crown	7	13¼	11.795	896	0	1	10¼
Quarter ditto	3	18⅝	5.897	896	0	11	0
New Crown of 1816	16	0	25.000	900	0	3	11¼

20. SAVOY AND PIEDMONT.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
Gold.							
Zecchino	2	5¼	3.468	1000	0	9	5¾
Double new Pistola of 24 livres	6	4½	9.620	906	1	3	9½
Half-Ditto	3	2¼	4.810	906	0	11	10¼
New Pistola of 20 livres, 1816	4	3⅜	6.451	900	0	15	10
Carlino, since 1755	30	22¾	48.100	906	5	19	0
Half Ditto	15	11⅜	24.050	906	2	19	6
Zecchino of Genoa	2	5¼	3.482	1000	0	9	6¼
Silver.							
Crown of 6 Livres since 1755	22	14	35.118	906	0	5	7¼
Half-crown	11	7	17.559	906	0	2	9½
Quarter ditto, or 30 Sous	5	15½	8.779	906	0	1	4¼
One-eighth ditto, or 15 Sous	2	19¼	4.389	906	0	0	8½
New Crown of 5 Livres, 1816	16	1½	25.000	900	0	3	11½

21. SAXONY.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
Gold.							
Ducat	2	5¼	3.491	986	0	9	5
Double Augustus, or 10 Thalers	8	13¹¹⁄₁₂	13.340	903	1	12	11
Augustus, or 5 Thalers	4	6¹⁰⁄₁₈	6.670	903	0	16	5½
Half Ditto	3	3⁵⁄₁₂	3.339	903	0	8	2¼
Silver.							
Rix-dollar Specie, or Convention, since 1763	18	1	28.064	833	0	4	1¼
Half Ditto, or Florin	9	0½	14.032	833	0	2	0½
Thaler of 24 Groschen (imaginary coin)					0	3	1
Groschen, 24 to the Thaler, 32 to the Rix-dollar	1	3⅓	1.982	368	0	0	1½

22. SICILY.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
Gold.							
Ounce, 1748	2	20½	4.399	906	0	10	10¼
Silver.							
Crown of 12 Tarins	17	14	27.533	833⅓	0	4	6½

23. SPAIN.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
Gold.							
Doubloon of 8 Crowns, 1772 to 1786	17	9	27.045	901	3	6	7
Doubloon of 4 Crowns	8	16½	13.522	901	1	13	3½
—— 2 Crowns	4	8¼	6.761	901	0	16	7¾
Half-pistol, or Crown	2	4⅛	3.380	901	0	8	3
Doubloon of 8 Crowns since 1786	17	9	27.045	875	3	4	8
—— 4 Crowns	8	16½	13.522	875	1	12	4
—— 2 Crowns	4	8¼	6.761	875	0	16	2
Half-pistol, or Crown	2	4⅛	3.380	875	0	8	1
Silver.							
Piaster, since 1772	17	8	25.045	903	0	4	2¼
Real of 2, or Peseta, or one-fifth of a Piaster	3	18	5.971	813	0	0	10½
Real of 1, or Half Peseta, or one-tenth of a Piaster	1	21	2.985	813	0	0	5¼
Reallillo, or one-twentieth of a Piaster	0	22½	1.492	813	0	0	2½

These three last coins have currency in the Peninsula only.

24. SWEDEN.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
Gold.							
Ducat	2	5	3.482	976	0	9	3¼
Half Ditto	1	2½	1.741	976	0	4	7½
Quarter Ditto	0	13¼	.870	976	0	2	3¾
Silver.							
Rix-dollar of 48 shillings, from 1720 to 1802	18	17	29.508	878	0	4	6
Two-thirds of Rix-dollar of 32 shillings	12	11⅓	19.672	878	0	3	0
One-third, or 16 shillings	6	5⅔	9.836	878	0	1	6

25. SWITZERLAND.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
Gold.							
32 Franken Piece	8	22	15.297	904	1	17	9
16 Ditto	4	11	7.648	904	0	18	10½
Ducat of Zurich	2	5¾	3.491	979	0	9	5
—— Berne	2	5⅓	3.452	979	0	9	2¼
Pistole of Berne	4	21	7.648	902	0	18	10
Silver.							
Crown of Basle of 30 Batz, or 2 Florins	15	1	23.[illegible]6	878	0	3	7½
Half Crown, or Florin	7	12½	11.693	878	0	1	9¾
Franken of Berne, since 1803	4	17¼	7.512	900	0	1	2¼
Crown of Zurich of 1781	16	0	25.057	844	0	3	8½
Half, or Florin, since 1781	8	0	12.528	844	0	1	10¼
Crown of 40 Batz of Basle and Soleure, since 1798	18	23	29.480	901	0	4	8
Piece of 4 Franken of Berne, 1799	18	22	29.370	901	0	4	8
Ditto of 4 Franken of Switzerland of 1803	18	23	13.049	900	0	4	9
Ditto of 2 Franken of Switzerland of 1803	9	11½	15.025	900	0	2	4½
Ditto of 1 Franken	4	17¼	7.512	900	0	1	2¼

26. TURKEY.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
Gold.							
Zecchin Zermahboub of Sultan Abdoul Hamet, 1774	1	16	2.642	958	0	6	11
Half Ditto	0	20	1.321	958	0	3	5½
Roubbié, or ¼ Zecchin Fondoukli	0	13¼	0.881	802	0	1	11
Zecchin Zermahboub of Selim III.	1	16	2.642	802	0	5	9½
Half Ditto	0	20	1.321	802	0	2	4¾
Quarter Ditto	0	10	0.660	802	0	1	2¼
Silver.							
Altmichlee of 60 Paras, since 1771	15	50	28.822	550	0	2	9½
Yaremlee of 20 Paras, or 60 Aspres					0	0	9¼
Rouble of 10 Paras, or 30 Aspres					0	0	4½
Aspre, 120 in the Piastre					0	0	0
Piece of 40 Paras				500	0	1	7
Piece of 5 Piastres					0	3	3¼

27. TUSCANY.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
Gold.							
Ruspone, 3 Zecchini, with the lily	6	17¼	10.464	1000	1	8	7
One-third Ruspone, or Zecchino	2	5¼	3.488	1000	0	9	6¼
Half Zecchino	1	2¼	1.744	1000	0	4	9
Zecchino with effigy	2	5¼	3.448	1000	0	9	6¼
Rosina	4	11½	6.976	896	0	17	1
Half Ditto	2	5¾	3.488	896	0	8	6½
Silver.							
Francesconi of 10 Paoli, or Crown of 10 Paoli	17	13½	25.507	917	0	4	5¼
Piece of 5 Paoli	8	18¼	12.753	917	0	2	2¼
—— 2 Paoli	3	6½	5.501	917	0	10	0
—— 1 Paoli	1	15¼	2.751	917	0	0	5

28. VENICE.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
Gold.							
Zecchino	2	5¼	3.484	1000	0	9	6
Half Ditto	1	2⅞	1.742	1000	0	4	9
Ozella	8	19	13.666	1000	1	17	4
Ducat	1	9⅜	2.175	1000	0	5	11¼
Pistola	4	8½	6.764	917	0	15	11½
Silver.							
Ducat of 8 Livres	14	15½	22.777	826	0	3	3½
Crown of the Cross	20	10	31.788	948	0	5	3¼
Ducatoon	18	0	27.914	948	0	4	8
Talaro	18	13	28.990	826	0	4	2¼
Ozella	6	8	9.813	948	0	1	7¼

29. UNITED STATES OF AMERICA.

	dwt.	grs.	grammes.	Standard.	Eng. Value £	s.	d.
Gold.							
Double Eagle of 10 Dollars	11	6	17.480	917	2	3	9¼
Eagle of 5 Dollars	5	15	8.740	917	1	1	10¾
Half Eagle of 2½ Dollars	2	19½	3.370	917	0	10	11¼
Silver.							
Dollar	17	10	27.000	903	0	4	3½
Half Dollar	*8*	*17*	*13.500*	*903*	*0*	*2*	*1¾*
Quarter Dollar	4	8½	6.750	903	0	1	0¾

No. VII.—A TABLE, showing, in Geographical Miles, the length of a Degree of Longitude on the Parallel passing through each Degree of Latitude from the Equator to either of the Poles.

Deg. of Lat.	Miles.	Deg. of Lat.	Miles.	Deg. of Lat.	Miles.	Deg. of Lat.	Miles.	Deg. of Lat.	Miles.	Deg. of Lat.	Miles.
1	59.99	16	57.67	31	51.43	46	41.68	61	29.09	76	14.51
2	59.96	17	57.38	32	50.88	47	40.92	62	28.17	77	13.50
3	59.92	18	57.06	33	50.32	48	40.15	63	27.24	78	12.48
4	59.85	19	56.73	34	49.74	49	39.36	64	26.30	79	11.45
5	59.77	20	56.38	35	49.15	50	38.57	65	25.36	80	10.42
6	59.67	21	56.01	36	48.54	51	37.76	66	24.41	81	9.38
7	59.56	22	55.63	37	47.92	52	36.94	67	23.44	82	8.35
8	59.42	23	55.23	38	47.28	53	36.11	68	22.48	83	7.32
9	59.26	24	54.81	39	46.63	54	35.27	69	21.50	84	6.28
10	59.09	25	54.38	40	45.96	55	34.41	70	20.52	85	5.23
11	58.90	26	53.93	41	45.28	56	33.55	71	19.53	86	4.18
12	58.69	27	53.46	42	44.59	57	32.68	72	18.54	87	3.14
13	58.46	28	52.97	43	43.83	58	31.79	73	17.54	88	2.09
14	58.22	29	52.47	44	43.16	59	30.90	74	16.54	89	1.05
15	57.95	30	51.96	45	42.43	60	30.00	75	15.53	90	0.00

No. VIII.—TABLE OF CLIMATES.

Climates of Half an Hour.	Longest Day.		Latitude.		Extent of Climates.	
Their Number.	*Hours.*	*Min.*	*Degrees.*	*Min.*	*Degrees.*	*Min.*
0	12	0	0	0	0	0
1	12	30	8	34	8	34
2	13	0	16	43	8	9
3	13	30	24	10	7	27
4	14	0	30	46	6	46
5	14	30	36	28	5	42
6	15	0	41	21	4	53
7	15	30	45	29	4	8
8	16	0	48	59	3	30
9	16	30	51	57	2	58
10	17	0	54	28	2	31
11	17	30	56	36	2	8
12	18	0	58	25	1	49
13	18	30	59	57	1	32
14	19	0	61	16	1	19
15	19	30	62	24	1	8
16	20	0	63	20	0	56
17	20	30	64	8	0	18
18	21	0	64	48	0	40
19	21	30	65	20	0	32
20	22	0	65	46	0	26
21	22	30	66	6	0	20
22	23	0	66	20	0	14
23	23	30	66	28	0	8
24	24	0	66	32	0	4

Climates of Months.	Longest Day.	Latitude.		Extent of Climates.	
Their Number.	*Months.*	*Degrees.*	*Min.*	*Degrees.*	*Min.*
1	1	67	23	0	51
2	2	69	10	2	27
3	3	73	39	3	49
4	4	78	31	4	52
5	5	84	5	5	34
6	6	90	0	5	55

N. B.—We do not in this Table take any notice of the effects of the refraction, which increases the duration of the day, particularly towards the poles. Under the pole itself the refraction alone, independent of the twilight, increases the day, which is six months long 67 hours.

No. IX.—CHRONOLOGICAL TABLES.

PRINCIPAL ERAS.

Creation of the World.—There have been as many as one hundred and forty opinions on the distance of time between this event and the birth of our Saviour.[*] Some make it as small as 3616 years, and some as great as 6484. The chronology which is usually given with the authorized version of the Bible places the event in the 4004th year before the commencement of the common era.

The Olympiads.—The first year of the first Olympiad begins in the summer of the 776th year before the common era; the first year of the second Olympiad, in the summer of the 772d year, and so on.

The Foundation of Rome.—The 753d year before the commencement of the common era, according to the calculation usually adopted.

The Birth of Christ.—This is probably to be dated in the 4th year before the commencement of the common era

The Hejira.—Commencing on the 16th July, in the 622d year after the common era.

BEFORE THE COMMENCEMENT OF THE COMMON ERA OF THE INCARNATION.

2349 Commencement of deluge, which lasts about a year.

1921 Call of Abraham. A monarchy in Egypt at the time.

1491 The Israelites leave Egypt under Moses.

1451 The Israelites enter Canaan.

1255 Josephus' date of the foundation of Tyre; i. e., 240 years before the building of the Temple.

1080 [1657] [†] Cecrops from Egypt founds Athens. Argos, Sicyon, Eleusis, founded about the same time.

Deucalion flourishes, [1580].

1069 Saul, first king of Israel. Sparta built by Eurotas, and Lacedæmon.

1048 Tyre built, according to Newton. Reign of David.

1045 [1594] Cadmus, from Phœnicia, founds Thebes in Bœotia; he is said to have introduced letters into Greece.

Dardanus, a founder of Troy, [1125].

1028 Œnotrus leads a colony of Greeks to Italy.

1015 Minos reigns in Crete. Temple built by Solomon.

1007 Amphictyonic Council.

1002 Sesostris, an Egyptian conqueror.

993 [1362] Pelops comes to Greece from Asia.

987 Oracles in Greece.

983 Sisyphus reigns at Corinth; said to have founded it.

979 Kingdoms of Judah and Israel separated.

968 Theseus civilizes Attica.

964 [1586] Danaus comes to Greece from Egypt.

943 Greek colony to Italy under Evander.

937 [1360] Argonautic Expedition. Jason Hercules.

928 [1317] War of Seven Chiefs against Thebes.

918 [1307] Thebes taken by the Descendants of the Seven Chiefs.

904 [1270] Troy destroyed by the Greeks.

Homer, perhaps two or three generations later. Hesiod later still.

883 Carthage founded by Dido from Phœnicia.

825 [1190] The Heraclidæ conquer the Peloponnesus. Æolic migration to Asia.

794 [1130] Ionic migration to Asia, after the death of Codrus, last king of Athens.

790 Pul founds the Assyrian empire.

776 Era of Olympiads begins.

753 Rome founded, according to the usual date.

747 First kingdom of Babylon, and kingdom of Nineveh, or Assyria, arising from Pul's kingdom.

Era of Nabonassar begins.

721 Captivity of the Ten Tribes of Israel.

719 [757] Syracuse founded by a Corinthian Colony.

711 Independence of the Medes, who revolt from the Assyrians of Nineveh.

708 [845] Lycurgus' legislation at Lacedæmon.

681 First kingdom of Babylon put an end to by the Assyrians of Nineveh.

655 Psammeticus king of all Egypt.

652 [743] First war between Messenia and Lacedæmon.

635 Scythians get possession of Upper Asia, and Cimmerians of Lydia.

627 Newton's date of foundation of Rome.

625 Second Babylonian, or Chaldæan kingdom begins, by Nabopolassar's revolt from the Assyrians of Nineveh.

609 Assyrian empire of Nineveh destroyed by the Babylonians and Medes.

607 Scythians driven from Upper Asia. Cimmerians driven from Lydia about the same time.

596 Perdiccas founds the monarchy of Macedonia.

590 The Gauls, under Bellovesus, cross the Alps into Italy.

594 Legislation of Solon. Draco, perhaps twenty-five years earlier.

588 Destruction of the kingdom of Judah by the Babylonians.

560 Pisistratus, tyrant of Athens. Thales flourished.

559 Anacreon flourished.

556 Simonides born.

553 Stesichorus died.

548 Anaximander. Anaximenes.

546 Kingdom of Lydia destroyed by Cyrus, king of Persia. The kingdom of Media probably destroyed by him shortly before.

544 Pherecydes flourished.

539 Pythagoras flourished.

538 Kingdom of Babylon destroyed by Cyrus. Jews return to Jerusalem shortly after.

535 Thespis flourished.

525 Cambyses, king of Persia, conquers Egypt. Æschylus born.

519 Cratinus born. Hecatæus flourished.

518 Pindar born.

510 Pisistratidæ driven from Athens.

509 Monarchy abolished at Rome. Consuls and Quæstors instituted there.

508 Expedition of Darius Hystaspes, king of Persia, into Scythia. Thrace and Macedonia tributary to him.

503 Parmenides flourishes. Heraclitus flourishes.

500 Anaxagoras born.

499 Sardis burnt by the Ionians and Athenians.

496 Hellanicus born.

495 Sophocles born.

493 Tribunes and Ædiles instituted at Rome.

490 Battle of Marathon.

485 Gelon, tyrant of Syracuse. Epicharmus flourished.

484 Herodotus born.

480 Battles of Thermopylæ, Artemisium, Salamis, and Himera. Euripides born.

479 Battles of Platæa and Mycale.

477 Athenian ascendancy commences.

471 Thucydides born.

468 Mycenæ destroyed. Socrates born.

466 Battles of the Eurymedon.

464 Zeno of Elea flourished.

458 Lysias born.

Gorgias flourished.

451 Decemvirs at Rome. Laws of the Twelve Tables.

457 Battle of Tanagra.

447 Battle of Coronea.

444 Empedocles flourished. Xenophon born. First Military Tribunes at Rome.

443 Censors instituted at Rome.

436 Isocrates born.

431 Peloponnesian War begins. Hippocrates flourished.

429 Plato born. Eupolis flourishes.

427 Aristophanes flourishes.

413 Athenians defeated in Sicily. Birth of Diogenes the Cynic.

406 Dionysius, tyrant of Syracuse.

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[*] Fabric. Bibl. Ant. cap. 7. Koch. Tab Rev. Introd. xix.

[†] From hence, down to the date 596 inclusively, the dates are taken from Sir Isaac Newton. In some instances, there are added in brackets the dates of the same events as they appear in the tables subjoined by the Abbe Barthelemy to the Travels of Anacharsis, for the purpose of showing the diversity of opinions which have prevailed on the subject of early chronology.

404 Athens Taken. Thirty tyrants there. Commencement of Lacedæmonian ascendancy.
Government of thirty tyrants destroyed.
401 Retreat of the Ten Thousand Greeks. Ctesias flourished
397 Peace of Dercyllidas.
390 Rome burnt by the Galli Senones under Brennus.
389 Birth of Æschines.
387 Peace of Antalcidas.
384 Birth of Aristotle.
382 Birth of Demosthenes. The Cadmea, the citadel of Thebes seized by the Lacedæmonians.
379 The Lacedæmonians expelled from Thebes.
376 Battle of Naxos. Lacedæmonian ascendancy ends.
373 Theophrastus born.
371 Battle of Leuctra. Epaminondas and Pelopidas. Theban superiority in Greece.
365 Antisthenes flourished. Prætors instituted at Rome.
364 Isæus flourished.
362 Battle of Mantinea. Theban superiority ends.
359 Philip, son of Amyntas, becomes king of Macedonia.
357 Greek Social war. Phocian Sacred war.
356 Birth of Alexander the Great. Temple of Diana at Ephesus burnt. Dionysius expelled from Syracuse by Dion. Theopompus flourished.
347 Speusippus flourishes. Olynthus taken by Philip.
343 Dionysius expelled from Syracuse by Timoleon.
342 Birth of Menander.
341 Birth of Epicurus.
338 Amphissian Sacred war. Battle of Chæronea. Macedonian ascendancy.
336 Philip assassinated.
335 Thebes destroyed by Alexander the Great.
334 Alexander invades the Persian empire; wins the battle of the Granicus.
333 Alexander wins the battle of Issus.
332 Alexander conquers Syria and Egypt.
331 Alexander wins the battle of Guagamela, or Arbela, followed by the conquest of the Persian empire
330 Darius assassinated by Bessus. Philemon flourishes.
327 Alexander's campaign in India.
326 Voyage of Nearchus.
325 Demetrius Phalereus flourishes.
323 Death of Alexander. His empire is divided.
322 A Macedonian garrison placed at Athens, by Antipater, and the democracy superseded.
317 Death of Phocion.
316 Alexis flourishes.
315 Restoration of Thebes.
312 Seleucus takes possession of Babylonia. Era of the Seleucidæ begins.
307 Restoration of the Athenian democracy.
301 Antigonus defeated and slain at the battle of Ipsus.
The Empire of Alexander finally divided: Ptolemy takes Egypt, Libya, and Palestine; Cassander takes Macedonia; Lysimachus takes Thrace and Bithynia; Seleucus takes Syria, with most of Upper Asia.
280 Rise of the Achæan league. Chrysippus born.
278 The Gauls, who had invaded Greece, are driven out and pass into Asia. Zeno of Citium flourished. Strato, Epicurus, Arcesilaus flourished.
276 Antigonus Gonatus, king of Macedonia.
275 Pyrrhus defeated in Italy by Curius Dentatus.
265 First Punic war.
260 Duillius gains a naval victory over the Carthaginians.
250 Regulus put to death.
241 First Punic war ends.
240 Agis, king of Sparta, put to death.
236 Panætius died.
233 Livius Andronicus and Nævius flourished.
223 Antiochus the Great (III.) becomes king of Syria. Quintus Fabius Pictor flourished.
222 Battle of Sellasia. Sparta taken by Antigonus.
219 Illyria subdued by the Romans.
218 Second Punic war. Hannibal passes the Alps. Battles of the Ticinus and the Trebia, won by Hannibal over the Romans.
217 Hannibal defeats the Romans at the lake Thrasymene.
216 Hannibal defeats the Romans at Cannæ.
215 Alliance between Hannibal and Philip, king of Macedonia.
212 Syracuse taken by Marcellus. Archimedes killed
207 Asdrubal defeated and slain at the Metaurus.
206 Polybius born.
204 Peace between Philip and the Romans. Plautus flourishes.
202 Hannibal defeated by Scipio, at Zama.
201 Second Punic war ends. Ennius flourishes First Macedonian war.
197 Battle of Cynoscephale. First Macedonian war ends.
192 War of Romans with Antiochus, king of Syria. Pacuvius flourishes.
189 Antiochus is defeated at Magnesia, and makes peace.
183 Philopœmen put to death.
172 Second Macedonian war begins. Cæcilius, Afranius, and Terence flourish.
168 Perseus defeated at Pydna. Second Macedonian war ends. Macedonia becomes a Roman province.
166 Judas Maccabeus delivers the Jews from the Syrians.
155 Carneades and Diogenes, Athenian ambassadors at Rome. Attius flourishes.
149 Third Punic war begins.
148 M. Portius Cato died.
146 Carthage destroyed. Corinth destroyed. Greece becomes a Roman province.
140 Death of Viriatus in Spain.
135 Servile war in Spain.
133 Murder of Tiberius Gracchus. Destruction of Numantia.
132 Servile war in Sicily ended.
121 Caius Gracchus killed. Lucilius flourishes.
117 Gallia Narbonensis becomes a Roman province.
111 War against Jugurtha begins.
106 End of war against Jugurtha.
102 Marius defeats the Ambrones and Teutones.
101 Marius destroys a horde of Cimbrians. Julius Cæsar born.
93 Livy born.
91 Italian (Marsic, or Social) war.
88 Mithridatic war. Marian Civil war.
87 Marius seizes Rome.
86 Death of Marius. Sallust born.
84 Peace with Mithridates.
82 Sylla seizes Rome, and is made perpetual Dictator.
War renewed against Mithridates.
81 Peace with Mithridates.
80 War with Sertorius.
79 Sylla gives up the Dictatorship.
74 War renewed against Mithridates.
73 War against Spartacus. Sertorius assassinated.
71 War against Spartacus concluded. Recovery of Spain completed.
67 Pompey conquers the pirates. Lucretius flourishes.
63 Death of Mithridates. Conspiracy of Catiline. Palestine conquered.
60 First triumvirate, consisting of M. Crassus, Cn. Pompeius, and Julius Cæsar.
58 Cæsar's wars in Gaul begin. Catullus flourished.
55 Crassus goes to Syria. Cæsar's expedition to Britain.
53 Crassus slain by the Parthians.
52 Clodius murdered.
50 Subjugation of Gaul, by Cæsar, completed.
49 War between Cæsar and Pompey begins. Cæsar enters Rome; conquers Afranius and Petreius, in Spain; created Dictator.
48 Battle of Pharsalia. Murder of Pompey
47 Cæsar's war in Egypt. He conquers Pharnaces.
46 Cæsar conquers Pompey's party in Africa.
45 Cæsar conquers Pompey's sons in Spain; battle of Munda.
Cæsar declared Father of the Country, Perpetual Dictator, and Emperor.
44 Cæsar assassinated. Diodorus Siculus flourished.
43 Battle of Mutina. Second Triumvirate, consisting of C. Octavius (afterwards the Emperor Augustus), M. Antonius, M. Lepidus.

42 Battles of Philippi. Deaths of Brutus an Cassius.

40 Herod made king of the Jews.

36 Sextus Pompeius conquered in Sicily.

32 War between Octavius and Antony.

31 Battle of Actium.

30 Deaths of Antony and Cleopatra.

27 Augustus declared Emperor. Virgil, Horace, Ovid, Gallus, Pollio. Varius, Tibullus Propertius, Phædrus, flourished.

25 Cornelius Nepos died.

12 Pannonians subdued. Victories of Drusus in Gaul.

8 Seneca born.

4 Birth of our Saviour; sometimes placed f years later.

Dionysius of Halicarnassus flourished.

COMMENCEMENT OF THE COMMON ERA OF THE INCARNATION, IN THE 4004-5TH YEA FROM THE CREATION OF MAN.

After Christ.

16 Augustus dies. Tiberius. Mathematicians expelled from Rome.

17 Arminius defeats Marabodus.

19 Germanicus poisoned. Celsus. Pomponius Mela.

21 Arminius is killed.

33 Crucifixion of our Saviour.

35 St Paul converted.

37 Caligula. 41. Claudius.

40 The followers of our Saviour called Christi

41 Conquests of Plautius in England.

50 London founded by the Romans.

54 Nero. Perseus (*b.* 34, *d.* 62). Lucan (*b.* 38, *d.* 65). Seneca (*d.* 65). Petronius Arb. (*d.* 67). Dioscorides. Flav. Josephus (*b.* 37, *d.* 93).

60 Christianity introduced into Britain.

64 Rome set on fire, burned six days. First persecution of the Christians.

70 Destruction of Jerusalem. Pliny (*b.* 23, *d.* 79).

78 Agricola completes the conquest of Britain.

79 Titus. Pompeii and Herculaneum destroyed by an eruption of Vesuvius. Valerius Flaccus. Silius Ital. (*d.* about 100). Quintilian *b.* 42).

81 Domitian

84 Agricola defeats the Caledonians (Scots).

90 Juvenal Epictetus.

94 Second persecution of the Christians under Domitian.

96 Nerva. Tacitus. Pliny the younger.

98 Trajan. 106, Dacia subdued. Suetonius. Florus. Plutarch (*b.* 50). Third persecution under Trajan.

117 Adrian. The Euphrates the frontier of the Roman empire in Asia.

118 The city of Jerusalem again destroyed. Dispersion of the Jews.

138 Antoninus Pius. Claudian. Ptolemy. Arrian.

161 Marcus Aurelius and L. Verus. Galen. Appian. Symmachus. Aul. Gellius. Apuleius.

163 Fourth persecution under M. A. Antoninus.

166 to 178, war by the Romans with the people between the Alps and the Danube.

180 Commodus. The Goths seize upon the eastern part of Dacia.

192 The Saracens known by a victory which they gained over the Romans, in the deserts of Arabia.

193 Pertinax. Didius Julianus. Pescennius Niger. Septimius Severus.

202 Emilius. Papinian (slain 212). Ulpian (slain 228). Tertullian (*d.* 220). Philostratus.

203 Fifth persecution under Severus.

209 The wall of Severus built in Britain.

211 Caracalla and Geta.

213 First mention of the Germans, a people united on the upper Rhine.

217 Macrinus. 218 Heliogobalus.

222 Alexander Severus. Origen (*b.* 185, *d.* 251). Dion Cassius. Ammonius Saccas, author of the new philosophy of Plato. Herodian. Sext. J. Africanus.

226 Artaxerxes, king of the new empire of Persia. War against Rome.

236 Sixth persecution under Maximinian.

250 First mention of the Franks, a people united on the lower Rhine.

Seventh persecution under Decius.

251 Irruption of the Goths into Thessaly. Potinus (*d.* 270). Diogenes Laertius.

252 Eighth persecution under Gallus.

258 Ninth persecution under Valerian.

260 Sapor, king of the Persians, takes king Valerian prisoner. The Germans advance to Ravenna. The Vandals. Longinus

263 Irruption of the Franks into Gaul.

26 Odenatus reduces the Persians, and repels the Goths.

267 Dioclesian conquers the Saracens.

273 Aurelian conquers Palmira. Zenobia.

274 Silk first brought from India.

275 The Goths seize upon Dacia (the Visigoths, and the Ostrogoths).

277 Probus drives the Germans from Gaul, and defeats the Franks.

284 Dioclesian.

298 Constantius Chlorus defeats the Germans near Langres.

303 Tenth persecution under Dioclesian.

306 Constantine the Great embraces Christianity. 311 Lactantius.

313 The Franks are conquered; and 321 the Sarmatians.

Eleventh persecution ends by an edict of Constantine.

323 The Western provinces are joined to the Eastern.

325 A Council held at Nice.

330 Constantinople, capital of the empire.

350 The Franks in Gaul.

353 Constantius. 354-430 Augustin.

358 Julian reduces the Salique Franks, and

360 Forces the Germans to conclude a peace.

361 Julian the Apostate killed 363, in a war against the Persians. Diophantus, mathematician.

368 Theodosius again subdues Britain. Valentinian I. War with the Germans.

369 Valens compels the Visigoths to make peace.

373 The Bible translated into the Gothic language.

374 The Visigoths pass the Wolga.

376 The Ostrogoths are conquered.

395 Division of the Roman empire. Honorius in the West, Arcadius in the East. Stilicho.

400 Bells invented.

401 Alaric, king of the Visigoths, devastates Italy.

407 The Germans penetrate into Helvetia.

409 The Vandals, and others. subdue Spain.

410 Alaric's third expedition. Capture of Rome.

412 Atolphus, king of the Visigoths, defeats Jovinus in Gaul. Honorius yields up Britain.

428 Nestorius, bishop of Constantinople.

29 The Vandals, commanded by their king, Genseric, pass into Africa.

433 to 452 Attila.

51 Attila conquered by Aetius at Chalons sur Marne. Theodoric I.

452 Attila in Upper Italy. Foundation of Venice.

457 Hengist the Saxon founded the kingdom of Kent

468 The Romans expelled from Spain by Eric, king of the Visigoths.

476 The Western Roman Empire overturned.

477 Empire of the Visigoths in Gaul.

490 Ælla founds the kingdom of Sussex.

493 Theodoric the great king of the Ostrogoths, conquers Italy.

Silkworms introduced into Europe.

508 Clovis subdues the kingdom of the Visigoths in Gaul, and establishes that of the Franks, the country being afterwards called France.

11 Division of the kingdom of the Franks.

27 Justinian (*d.* 565); 530 Pandects established.

553 Overthrow of the empire of the Ostrogoths in Italy.

558 Clotaire.

568 The kingdom of Lombardy founded.

569 Mahomet preaches Islamism.

585 Leovigild, the Visigoth, overthrows the empire of the Suevi in Spain.

597 Augustine, the monk, settles in England.

622 The Hejira. Abubekir revises the Koran.

637 Jerusalem taken by the Saracens.

638 The Saracens make themselves Syria, and (651) of Persia.

660 Organs used in churches

663 Glass brought into England.
685 The Britons driven into Wales and Cornwall by the Saxons.
698 The Saracens masters of Carthage. Anafestus the first Doge of Venice.
711 The Arabs, with Tarik at their head, make a descent on Spain, which they finally conquer under Muza 714. 718 Pelayo.
752 Pepin, king of France.
755 Pope's temporal dominion began
774 The kingdom of Lombardy under the dominion of the Franks.
785 Saxony, a province of France.
786 Haroun al Raschid.
787 The Danes make a descent upon England.
800 Charlemagne crowned emperor of the Romans. Leo III. Foundation of Scholastic philosophy. Progress of the Arabs in the sciences. (Mahomet Ben Omar *d.* 822.) Clocks introduced into Europe from the East.
803 The Saxons submit to Charlemagne.
806 The Sorbes and Vandals become tributary to him.
814 Charlemagne dies at Aix-la-Chapelle.
827 Egbert the Great, king of England.
853 Pope Nicholas refuses to confirm the election of Phocius, at Constantinople, which causes the schism of the Greek church.
855 Foundation of the kingdom of Navarre under D. Garcias.
877 Charles the Bald introduces the hereditary feudal system into France.
880 Schism of the Greeks, who separate from the Roman church.
881 Alphonso III. penetrates as far as the Tagus, and becomes formidable to the Arabs.
885 Paris besieged by the Normans.
893 Alfred the Great succeeds in destroying the Danish power in England.
904 The Russians before Constantinople.
919 The house of Saxony upon the throne of Germany.
961 Otho the Great joins Italy with Germany, and
962 Renews the imperial dignity.
987 The race of Capet upon the throne of France.
991 The arithmetical figures introduced into Europe by the Arabians.
1014 Canute the Great, king of Denmark, ascends the throne of England.
1030 Dismembering and downfall of the caliphat of Cordova.
1038 End of the empire of the Ommayades in Arabian Spain. The Moors.
1012 The Danes expelled from England. Edward the Confessor.
1056 Milan becomes a republic; afterwards Pisa, Genoa, Pavia, &c.
1066 Battle of Hastings. William, duke of Normandy, conquers England. Probable beginning of tournaments.
1073 Gregory VII. (Hildebrand) Pope.
1074 Bull of this pontiff against the investiture and marriage of priests.
1076 The emperor, Henry IV. deposed by the Pope.
1080 Doomsday-book begun. Finished, 1086.
1085 Alphonso of Castile takes Toledo and Madrid from the Moors.
1086 Order of Carthusians.
1087 William the Conqueror invades France.
1095 Council held at Clermont. Origin of the Crusades.
1096 First Crusade.
1097 The Almoravides in the Arabian part of Spain.
1099 Capture of Jerusalem. Godfrey of Boulogne king. Institution of the Knights of St John.
1106 Henry I., king of England, joins Normandy to his kingdom.
1108 Louis VI., king of France, encourages corporations as a security against the feudal lords, and their vassals.
1119 Order of the Templars instituted.
1124 Musical Notes invented.
1135 Alphonso III. of Leon and Castile, master of Spain.
1147 Second Crusade under Conrad III. and Louis VII. Alphonso seizes upon Lisbon. Moscow founded.
1150 Abelard. Scholastic philosophy of Aristotle taught.
1154 The Plantagenets (House of Anjou) ascend the English throne.
1163 London Bridge first built of stone
1172 Henry II. conquers Ireland. Alphonso I., king of Portugal, takes Murcia from the Almoravides.
1180 Downfall of the House of the Guelphs. Bills of Exchange introduced into commerce.
1186 Sept. 16. Conjunction of all the planets at sun-rise.
1187 Saladin destroys the kingdom of Jerusalem.
1189 Third Crusade under Frederic I., Philip. II. and Richard Cœur de Lion.
1190 Knights of the Teutonic Order instituted.
1191 The Crusaders conquer Ptolemais
1192 Battle of Ascalon, in which Richard defeated Saladin.
1200 First mention of the Mariner's Compass. Establishment of Universities.
1202 Fourth Crusade under Boniface. Marq. of Montferat.
1204 The Crusaders take Constantinople. Origin of the Inquisition in Languedoc. Dominicans and Franciscans.
1206 Gengis Khan; Empire of Mogul. Paris University.
1208 Crusade against the Albigenses (till 1229).
First Charter to the City of London.
1214 Roger Bacon.
1215 Magna Charta, the basis of the English Constitution.
1217 Fifth Crusade, under Andrew, king of Hungary.
1218 Switzerland becomes an integral province of the German Empire.
1220 Astronomy and Geography introduced into Europe by the Moors.
1222 Basis of the Hungarian Constitution. The assemblage of States of France called a Parliament. Salamanca University.
1224 Thomas Aquinas.
1228 Sixth Crusade, under the emperor Frederic II.
1236 The Moguls penetrate into Russia, and take Moscow. Mogul empire.
1218 Seventh Crusade, under Saint Louis, king of France.
1253 Alphonso, king of Castile, constructed his celebrated astronomical tables.
1258 The Moguls destroy the caliph of Bagdad.
1261 Michael Palæologus conquers Constantinople.
1265 Dante born (*d.* 1321).
1270 Saint Louis dies before Tunis.
1279 The Moguls subdue the whole of China.
1282 Sicilian Vespers.
1291 End of the Crusades.
1296 Edward I., king of England, overruns Scotland.
1299 Spectacles invented.
1300 Boniface VIII. Abulfeda. Raymond Lully
1301 The Princes royal of England created Princes of Wales.
1302 Cambridge University.
1308 Helvetic Confederation. William Tell.
1310 Capture of the Isle of Rhodes by the Knights of St John of Jerusalem. Chimneys used in domestic architecture.
1312 The Order of Templars is entirely suppressed by Pope Clement I., and by Philip le Bel.
1313 Boccaccio born (*d.* 1375).
1314 Battle of Bannockburn.
1319 University of Dublin.
Catalonia and Valencia united to Arragon
1328 Scotland becomes independent. Robert Bruce
House of Valois in France.
1341 Petrarch crowned at Rome (*b.* 1304, *d.* 1374)
1345 First mention of gunpowder in France. Fire-arms used
The Canaries discovered by the Genoese.
1347 First German University at Prague. Rienza, Tribune at Rome.
Battle of Durham; David, king of Scots, taken prisoner.
1349 The plague desolates Europe. Persecution of the Jews.
1354 Inez de Castro. Foundation of the Order of the Garter.
1356 Battle of Poitiers. John, king of France,

taken prisoner by the Black Prince (of Wales). Maupertuis.
1357 Coals first used in London.
1361 The Turks conquer Adrianople, and establish themselves in Europe. Vienna University.
1362 John Wickliff, Reformer in England.
1364 Philip the Bold, duke of Burgundy.
1369 Timour, or Tamerlane, the Mogul conqueror.
1371 The Stuarts upon the throne of Scotland.
1384 First navigation act in England.
1386 Windsor Castle built.
1388 The battle of Otterburn.
1399 The House of Lancaster ascended the throne of England.
1400 John Huss, a disciple of Wickliff, reformer in Bohemia.
1402 Bajazet defeated by Tamerlane.
1405 Death of Tamerlane.
1411 University of St Andrew founded.
1414 Council of Constance.
1415 John Huss burnt. Capture of Ceuta. Battle of Agincourt won by Henry V.
1417 First mention of the Bohemians (Gipsies) in Europe. The Hussites choose Ziska for their chief.
1418 Madeira discovered.
1429 The Maid of Orleans.
1430 Charles VII. crowned at Rheims. Henry VI. at Paris. Joan of Arc burnt.
1432 The Portuguese discover the Azores.
1433 Lisbon becomes the seat of government instead of Coimbra.
1436 John Gotteuberg (*d.* 1466) invents the art of Printing.
1437 The House of Hapsbourg-Austria on the throne
1442 Beginning of the Slave Trade.
1444 Discovery of the Cape de Verd islands.
1445 Wars of the red and white roses.
1446 Inundation at Dort; 100,000 drowned.
1453 Mahomet II. takes Constantinople. The English lose all their possessions in France, except Calais.
1454 University of Glasgow founded.
1457 Glass first made in England.
1464 Stages, Diligences, and Posts in France.
1470 Publication of the first Almanac.
1471 Printing introduced into England, by W. Caxton.
1472 Lorenzo de Medicis.
1477 University of Aberdeen founded.
1478 Inquisition in Spain. Cardinal Mendoza.
1479 Union of Castile with Arragon.
1481 End of the domination of the Tartars in Russia.
1485 The House of Tudor ascends the throne of England. Union of the two roses. Battle of Bosworth Field. Death of Richard III.
1486 Diaz discovers the Cape of Good Hope.
1492 Granada conquered by Ferdinand I. Christopher Columbus discovers America.
1495 Diet held at Worms.
1496 Cabot discovers the island of Newfoundland.
1498 The Portuguese discover the passage to the East Indies by sea. Vasco de Gama.
1499 The Moors expelled from Castile.
1500 Alvarez de Cabral discovers the Brazils.
1505 Almeyda sails to the East Indies.
1508 Porto Rico, Jamaica, and Cuba, colonized by the Spaniards.
1510 to 15 Goa, Malacca, Ormus, conquered by the Portuguese. Albuquerque.
1512 Navarre united to Spain by Ferdinand the Catholic.
1513 Battle of Flodden.
1517 Luther (*b.* 1483, *d.* 1546) publishes at Wittenberg disputations against indulgences. The Turks conquer Syria and Egypt.
1519 First Voyage round the World by Magellan.
1521 Luther at the Diet of Worms. Gustavus Vasa, at the head of the Dalecarlians, defeats the troops of Christiern II. Discovery of Manilla, of the Ladrones, and of the Moluccas. Conquest of Mexico.
1522 The Ottomans seize upon Rhodes.
1523 Zuinglius (*b.* 1481, *d.* 1531) Reformer at Zurich. The Spaniards subdue Chili.
1525 A. de Brandenbourg, Great Master of the Teutonic Order, makes himself hereditary duke of Prussia. Francis I., king of France, prisoner at Pavia.
1526 Moldavia and Wallachia subjected to the dominion of the Ottoman Porte.
1527 Death of Albert Durer (*b.* 1471).
1528 Conquest of Peru.
1529 The Turks before Vienna.
1530 Confession of Augsbourg.
1533 Death of Ariosto (*b.* 1474).
1534 Henry VIII. becomes the head of the English Church. Oath of Supremacy.
1535 The Anabaptists at Munster. Establishments of the Spaniards at Buenos Ayres.
1536 Death of Erasmus (*b.* 1467).
1539 Suppression of Religious Houses in England and Wales.
1540 The Order of the Jesuits confirmed by Pope Paul III. John Calvin (*b.* 1509, *d.* 1564). Reformation at Geneva. Variation of the Compass discovered by Cabot.
1543 Death of Copernicus (*b.* 1473).
1544 Lutheranism introduced into Sweden.
1545 Council of Trent.
1547 Orange trees brought from China to Portugal.
1549 Telescopes invented.
1552 Maurice, elector of Saxony, forces Charles V. to conclude the treaty of Passau.
1553 The English go by sea to Archangel. Rabelais dies (*b.* 1483).
1560 Death of Melancthon (*b.* 1497).
Reformation in Scotland. Knox.
1565 Gesner (*b.* 1516).
1567 Prince William of Orange; assassinated, 1584. Belgic refugees establish manufactures in England.
1571 Selim II. conquers Cyprus. Victory of the Austrians, near Lepanto.
1572 Massacre of St Bartholomew (24 August.)
1575 Leyden University.
1580 Portugal united to Spain. Tycho Brane (*b.* 1546, *d.* 1601).
Drake sails round the world. Parochial registers kept in England.
1581 The United Provinces declare themselves independent. Gregorian Calendar. The duke of Alva occupies Portugal by order of Philip II.
1583 Tobacco introduced into England.
1584 The Crimea under the dominion of the Turks.
1587 Mary Stuart, queen of Scotland, put to death.
1588 Defeat of the Spanish Armada.
1589 The House of Bourbon ascended the throne of France (Henry IV.)
1595 The Dutch establish factories at Java. Death of Tasso (*b.* 1544.)
1598 Edict of Nantz. Casaubon (*b.* 1559, *d.* 1614).
1600 East India Company established.
1602 Company of Dutch trading to the East Indies. Decimal arithmetic invented.
1603 Crowns of England and Scotland united in the House of Stuart.
1604 Gunpowder Plot.
1609 The Moors expelled from Spain. Union of Protestant States in Germany. The English occupy the Bermudas in the West Indies. Discovery of the Satellites of Jupiter.
1610 Discovery of Hudson's Bay. Henry IV. assassinated by Ravaillac.
1611 The Poles seize upon Smolensko, and burn Moscow.
Baronets first created.
1613 The House of Romanoff ascended the throne of Russia.
1614 Invention of Logarithms by Lord Napier.
New River brought to London by Sir Hugh Middleton.
1616 Death of Shakspeare (*b.* 1564). Death of Cervantes (*b.* 1547).
1618 Commencement of the Thirty years' war.
1619 Hervey (*b.* 1577, *d.* 1657) discovers the circulation of the blood.
1624 Massacre at Amboyna.
1625 (28, 29, 32, &c.) The English take possession of Barbadoes, Bermuda, Providence, Antigua, Anguilla, in the West Indies.
1626 Death of Lord Bacon (*b.* 1560).
1630 Death of Kepler (*b.* 1571). Des Cartes (*b.* 1596, *d.* 1650).
1632 Battle of Lutzen. Death of Gustavus Adolphus.
1634 Death of Wallenstein. Battle of Noerdlingen. The Dutch take Curacoa from the Spaniards.

1635 Foundation of the French Academy. Alliance of France and Sweden against Spain and Austria.

1636 Utrecht University founded.

1640 Portugal shakes off the yoke of Spain. The House of Braganza. Assembling of the Long Parliament in England.

1642 Death of Galileo (b. 1564). Castelli and Toricelli his disciples.

1643 Barometer invented by Toricelli.

1644 Death of Hugo Grotius. Dan. Heinsius (b. 1580, d. 1655).

1648 Peace of Westphalia (24 Oct.) Confirmation of the treaty of Passau.

Spain acknowledges the independence of the Low Countries.

1649 Charles I, king of England, beheaded. Cromwell.

1651 Sect of Friends (Quakers) appeared in England.

Navigation Act passed in England.

1654 The Cossacks pass under the dominion of Russia. Smolensko, &c. conquered by the Russians.

1655 The English take Jamaica from the Spaniards.

Persecution of the Valdois by Charles Emanuel II.

1656 Frederic William, Elector of Brandenburg, procures the recognition of the independence of Prussia. Huygens (b. 1629, d. 1695).

1662 Royal Society established.

1663 The English take Bombay. Locke (b. 1632, d. 1704). Dryden (b. 1631, d. 1701).

1665 Great Plague in London.

1666 Tea first imported into England.

The great fire in London.

1667 The Dutch take Surinam. Milton.

1668 Peace of Aix-la-Chapelle. Moliere (b. 1620, d. 1673). La Fontaine (b. 1621, d. 1695).

1670 Corneille (b. 1606, d. 1684). Racine (b. 1639, d 1699). Boileau (d. 1711).

1671 The Danes seize upon St Thomas.

1677 First war between Russia and the Ottoman Porte. Russia seizes on the Ukraine. Death of Spinosa (b. 1632).

1678 Peace of Nimeguen.

The Habeas Corpus act passed.

1679 Louis XIV. takes possession of Alsace, and

1681 of Strasbourg.

1682 Foundation of Philadelphia, by William Penn.

The French seize on Tobago.

1685 Revocation of the Edict of Nantz. Massacres. 50,000 Reformed quit France.

1686 Air Pump. Calderon (b. 1601, d. 1687).

1688 The Revolution. William III, Prince of Orange, Stadtholder of the United Provinces, lands in England. Flight of James II.

1689 Toleration act passed.

Episcopacy abolished in Scotland.

1690 The English establish themselves at Calcutta.

Battle of the Boyne.

1692 Battle of La Hogue.

1693 Bank of England established.

1697 Peace of Ryswick. The Dutch take Saint Eustatia.

1700 Northern war till 1721. Charles XII., and *Peter the Great at Pernau. Academy at Berlin.*

1701 War of the succession in Spain till 1714.

Prussia erected into a kingdom.

1702 Death of K. William. Anne.

1703 Foundation of St Petersbourg.

1704 Capture of Gibraltar by the English.

Battle of Blenheim.

1706 England and Scotland united under the same Parliament.

Battle of Ramilies.

1708 Battle of Oudenarde.

1709 Charles XII. at Bender, after the battle of Pultowa.

Battle of Malplaquet.

1710 Conquest of Livonia, Esthonia, and Courland, by Peter the Great.

St Paul's rebuilt.

1713 Peace of Utrecht. Philip of Anjou, king of Spain. Gibraltar, Minorca, Hudson's Bay, Newfoundland, and Saint Christopher's are ceded to England; the Low Countries to Austria. The Pragmatic sanction. Charles VI.

1714 Peace of Rastadt. George I., Elector of Hanover, ascends the throne of England.

1715 Rebellion in Scotland in favour of the Stuarts.

1716 Death of Leibnitz.

Septennial act passed.

1720 Inoculation introduced into England.

1721 Peter the Great takes the title of Emperor of all the Russias.

1725 Death of Newton (b. 1642).

1726 Academy of Petersburg founded.

1730 Fahrenheit's Thermometer. Swift (b. 1667, d. 1745). Young (b. 1681, d 1765). Pope (b. 1688, d 1744). Thomson (b 1700, d. 1748). Boerhaave (b 1668, d 1738).

1736 The Porteous mob in Edinburgh.

1737 Gottingen University.

1739 Nadir Schah reduces the Mogul emperor to extremities.

Rebellion in Scotland.

1740 War of the Austrian succession, till 1748.

1742 Peace of Breslau and of Berlin. Frederick the Great acquires Lower-Silesia, and the greater part of Upper-Silesia.

1743 Battle of Dettingen.

1744 Anson sails round the world.

1745 Battle of Fontenoy.

1746 Battle of Culloden.

1748 Peace of Aix-la-Chapelle. Klopstock (b. 1724, d. 1803). Lessing (b. 1729, d. 1781). Montesquieu (b. 1698, d. 1755). Reaumur (d. 1757). Voltaire (d 1778). Rousseau (b 1712, d. 1788). Buffon (b 1707, d. 1788). Goldoni (b. 1707, d. 1792). Linnaeus (b. 1707, d. 1778).

1750 Westminster-bridge finished.

1752 New style adopted in Britain.

1753 British Museum established.

1755 Great earthquake at Lisbon. Lord Clive obtains Bahar and Orissa in Bengal.

1756 The Seven years' war.

1759 Expulsion of the Jesuits from Portugal. Pombal.

Battle of Quebec. Death of Wolfe.

Earthquake at Lima.

1760 Jesuits expelled from France.

1761 Family compact of the Bourbons.

1763 Peace of Paris. France cedes to England Canada, C. Breton, St Vincent, St Domingo, Tobago, and the coast of Senegal. Spain cedes Florida.

1764 Taxes increased in the English Colonies of North America.

The Order of the Jesuits suppressed in France.

1767 The Jesuits expelled from Spain.

1768 France purchases the island of Corsica from the Genoese.

Royal Academy established.

1770 Tax upon Tea in North America.

Blackfriars-bridge finished.

1771 Cooke's first voyage round the world.

1772 First partition of Poland. Struensee put to death.

1773 Pope Clement XIV. suppresses the Order of the Jesuits. Insurrection at Boston. A cargo of tea flung into the sea.

1774 *By the treaty of peace of Rutschuk,* Russia extends its frontiers towards Turkey. The Crimea independent of the Porte. Blockade of the port of Boston, and Congress of 12 provinces at Philadelphia.

1775 War of American Independence. General Congress of 13 provinces.

1776 4th July, the United States of North America declared independent. Death of Hume and of Adam Smith.

1778 War of the Bavarian succession. Alliance between France and the United States of North America.

Siege of Gibraltar.

1780 War of England against Hyder Ali.

Riots in London.

1781 Kant (d. 1804). Schiller (b. 1759, d. 1805.) Wieland (b. 1733, d. 1813).

1782 England acknowledges the independence of the United States of North America (30th Nov.) The Crimea and Kuban fall under the dominion of Russia.

1783 Great earthquake in Calabria. Peace of Versailles between England and North America; France, Spain (3d Sept.); Holland (20th May, 1[illegible]8[illegible]).

1785 German League.

1787 First assembly of the Notables.

1788 Second assembly of the Notables.

1789 Beginning of the French Revolution. General assembly of the States at Versailles, as a national assembly; suppression of privileges, and of feudal rights and tithes. Insurrection in the Low Countries.

1790 Suppressions of all religious orders, monasteries, the nobility, &c. in France.

1791 14th Sept. acceptance of the first constitution by Louis XVI. Second national legislative assembly.

1792 First coalition against France. Attack on the Tuilleries. French Republic. Peace of Jassy.

1793 21st January, Louis XVI. beheaded. Second constitution. The Reign of Terror. 16th October, the queen beheaded. Toulon. Bonaparte. Second partition of Poland. Great Poland and Dantzic are ceded to Prussia; Russia obtains Lithuania and Volhinia.

1794 Fall of Robespierre. Revolution in Poland, Kosciusko. Death of Lavoisier (*b.* 1743). The telegraph invented. Bruce, the traveller *d.* Lord Howe's victory, June 1. American minister received at Paris. Retreat of the British army in Flanders. Battle of Praga, 30,000 Poles butchered by Suwarrow.

1795 Third constitution. Normal and central schools in France. Third partition of Poland between Prussia, Austria, and Russia. Suppression of the stadtholdership of the Low Countries. The English take the island of Ceylon, and in 1797 Trinidad, &c. Bonaparte victorious in Italy. French entered Holland, and Stadtholder arrived in England. Mungo Park began his travels.

1796 National Institute of Arts and Sciences at Paris founded. Ceylon taken. Bonaparte crossed the Alps, and penetrated into Italy. Battle of Lodi, &c. Retreat of Moreau. English goods prohibited in France

1797 Peace of Campo-Formio. Ligurian and Cisalpine Republic. French extend their conquests in Italy. Victory of St Vincent (Feb. 14). Rebellion in Ireland.

1798 Congress of Peace of Rastadt. Bonaparte in Egypt. Independence of St Domingo. Battle of the Nile.

1799 Second coalition against France (Suwaroff), 9th Nov. Revolution of the 18th Brumaire. Death of Pius VI. at Valencia, 15th Dec. Fourth Constitution. Bonaparte First Consul. Tippoo Saib conquered by the English. Division of Mysore. Bonaparte in Syria and Egypt. Sir Sydney Smith at Acre. Seringapatam taken. Expedition to the Helder and the Texel. Suwarrow's campaign. British and Russians leave Holland.

1800 Victories of Bonaparte in Italy (Marengo). Republic of the Ionian Isles (Parga). The East India Company acquire the Carnatic. Royal Institution founded. Peace of El Arisch.

1801 Arcot, &c. The English take possession of Malta. Nelson before Copenhagen. Peace of Luneville. Death of Lavater (*b.* 1741). Union with Ireland. Planet Ceres discovered. Expedition to Egypt. Battle of Alexandria. Death of Gen. Abercromby. Peace signed.

1802 Peace of Amiens. Bonaparte Consul for life. Despard's conspiracy.

1803 War between France and Great Britain. France sells Louisiana to the United States of North America. The Negro chiefs proclaim the independence of St Domingo. Duke d'Enghien shot. Victories in India.

1804 Napoleon Bonaparte proclaimed Emperor of the French. Francis I. Emperor of Austria. The Jesuits restored by Pius VII. Ohio becomes a North American state. Dessalines, Emperor of Hayti.

1805 Napoleon, King of Italy. Third coalition against France. 26th Dec. peace of Presbourg. Bonaparte offered peace. Surrender of Ulm. Battle of Trafalgar. Death of Nelson.

1806 The Electors of Bavaria, Wirtemberg, and Saxony, take the title of king. Confederation of the Rhine. Continental System. Eugene, Viceroy of Italy. Dissolution of the German Empire. Joseph Napoleon, king of Naples. Louis Napoleon, king of Holland. War between France and Prussia. Wm Pitt *d.* Henri and Petion at St Domingo. British manufactures prohibited in America. Battle of Jena.

1807 Peace of Tilsit. Bombardment of Copenhagen. The Slave trade abolished by the English Parliament. The royal family of Portugal embark for Brazil. French troops enter Spain. Monte Video taken. Battle of Eylau. Battle of Tilsit. Bonaparte declares Britain in a state of blockade

1808 Joseph, king of Spain Joachim Murat, king of Naples. New nobility in France. Interview between Alexander of Russia and Bonaparte at Erfurt. Alliance with Spain and Portugal. Convention of Cintra.

1809 New war between Austria and France. Peace of Vienna. Revolution in Sweden: Gustavus IV. and his heirs excluded from the throne. Sweden cedes Finland to Russia. Retreat and death of Sir John Moore. Battle of Talavera. Expedition to Walcheren.

1810 Napoleon marries Maria Louisa, princess of Austria. Union of Holland and the coasts of the German sea, as far as Lubeck, with France. Bernadotte, elected prince-royal of Sweden, adopted by Charles XIII.

1811 Maskelyne *d.*

1812 War between France and Russia. Battle of Moskwa, 7th Sept. Burning of Moscow. Retreat of the French, 18th Oct. War between England and North America. Peace concluded at Bucharest between Russia and the Ottoman Porte; the Pruth the frontier. John Horne Tooke *d.* Battle of Salamanca.

1813 1st March, Prussia in league with Russia. All Europe take arms again to recover their independence. Battle of Lutzen, the 2d of May; of Vittoria, the 21st of June. Manifesto of Austria against France, 10th Aug. Battle of Gros-Beeren, 23d August; of Katzbach, 26th August; of Dresden, 27th August; of Culm, 30th August; of Dennewitz, 6th September; of Leipsic, 16th, 18th, and 19th October; of Hannau, 30th and 31st October. The French evacuate Germany and Spain. The English pass the Bidassoa, 17th October, and enter France. Treaty of Valencia. William, Prince of Orange, is recalled.

1814 Peace of Kiel, 14th Jan. Norway ceded to Sweden; Britain retains Heligoland Battle of Brienne, 1st and 2d Feb.; of Orthes, 27th Feb.; of Laon, 9th March; of Fere Champanoise, 25th March. The Allied Sovereigns enter Paris, 31st March. Abdication of Napoleon 11th April. Louis XVIII. enters Paris 3d May. Ferdinand VII. enters Madrid 14th May. Suppression of the Cortes. Re-establishment of the Inquisition; of the Jesuits' Colleges, &c. Arrests and executions. Restoration of the order of Jesuits, 7th Aug. Peace between France and the Allied Sovereigns, 30th May. France is confined within her frontiers as at the 1st Jan. 1792. Sweden restores Guadaloupe, and Portugal cedes Guiana, to France. Holland falls under the dominion of the Prince of Orange. Hanover made a kingdom, 26th Oct. Norway is joined to Sweden, 20th Oct. Congress at Vienna, 3d Nov. Genoa united to Sardinia, 12th Dec. Jubilee.

1815 Napoleon Bonaparte returns to France, 1st March. Neapolitans defeated by the Austrians at Tolentino, 3d May. Taking of Naples, 20th May. Battle of Waterloo, 18th June. Paris surrendered, the second time, to the Allied Powers, 3d July. Louis XVIII. made his second entry, 8th July. Bonaparte banished to St Helena, 12th Aug. The Holy Alliance concluded between the Emperors of Austria and Russia, and the King of Prussia, 26 Sept. Joachim Murat, ex-king of Naples, shot, 15th Oct. Foundation of the

Republic of the Ionian Islands, 5th Novem. Peace between the Allied Powers and France, 20th Nov.: the frontiers to remain as in 1790. The United Provinces of Buenos Ayres declare their independence. Embassy to China.

1816 Algiers bombarded by the fleet under Lord Exmouth. The captives set free, 27th Aug. Death of Sheridan.

Princess Charlotte d Abolition of the Slave Trade by France, Spain, and Holland.

Accession of Charles John (Bernadotte) to the throne of Sweden, 5th Feb. Negotiation between the Allied Powers and France, concerning indemnities, 25th April. Congress at Aix-la-Chapelle. Evacuation of the French territory.

Discontents in the manufacturing districts of England. The Manchester meeting.

1820 Jan. 1. Commencement of the Spanish revolution: proclamation of the constitution proposed by the Cortes in 1812. Jan. 29, death of George III. Feb. 13, Duke de Berri assassinated. Feb. 23, the Cato-street plot. March 8, the King of Spain swears to the Constitution of the Cortes; suppression of the inquisition. March 25, the Jesuits are expelled from Russia. May 15, commencement of the revolution at Naples (Carbonari). Sept 7, remarkable eclipse of the sun. Oct. 1. Constitutional Junta in Portugal Oct. 8, Death of King Henry in the island of Hayti. Oct. 21, ratification of the treaty by which Spain cedes Florida to the United States of North America.

1821 Jan. 1, A revolution in Brazil. Jan. 8, Congress of Leybach. Austrian army occupies Naples. Mar. 6, Insurrection in Moldavia and Wallachia. 25, The Greeks join the insurrection. Mar. 10, till April 10, disturbances in Piedmont; the king resigns in favour of his brother. Apr. 22, the Greek Patriarch put to death at Constantinople. May 5, death of Napoleon Bonaparte. July 4, the King of Portugal returned to his capital. July 19, Coronation of George IV. Queen Caroline died. July 20, Austrian troops occupy the kingdom of Sardinia. Aug. 12. the Russian ambassador quits Constantinople. Aug. 17, George IV. visits Dublin. Oct. 10, public entry of George IV. into Hanover. Dec. 1, the Spanish part of St Domingo declares itself independent.

1822 Jan. 1, the Greeks declare themselves free. Jan. 26, the Grand-duke Constantine of Russia renounces the right of succession. Feb. 11, the Prince Royal of Brazil sends back the Portuguese troops, and (Feb. 16) institutes a representative government. March 1, sitting of the Ordinary Cortes at Madrid. March 8, the United States of North America acknowledge the independence of those of South America. May 21, Don Augustin Iturbide made Emperor of Mexico. July 2, Massacres in Madrid. July 8, victories by the Greeks at Larissa, Thermopylæ, and Salonica, and July 14, at Thermopylæ. Aug. 11, Army of the Faith. Oct. 1, The King of Portugal swears to the new constitution. Oct. 12, Independence of Brazil; the Prince Regent proclaimed Emperor. Oct. 20, Congress at Verona. George IV. visits Scotland.

Jan. 9. the Spanish Cortes reject the mediation of the cabinets of Petersburg, Vienna, and *Berlin*. 20 March, removal of the king of Spain to Seville, thence to Cadiz. 7 Apr. The French army enters Spain. 19 April, Iturbide dethroned. 23 May, the French enter Madrid. 5 June, the king of Portugal suppresses the constitution. 25 June, the French invest Cadiz. Guatemala declares itself independent of Spain and Mexico. 20 July, Mexico acknowledges the independence of Guatemala. 31 Aug., Battle of the Trocadero before Cadiz. 15 Sept., Riego taken prisoner, and (27 Nov.) put to death at Madrid. 1 Oct., the king of Spain resumes his despotism, and abolishes all the proceedings of the Cortes, from 7 March, 1820. End of the Spanish Revolution. 4 Oct., proclamation of the Mexican Constitution by the President Vittoria. 23 Oct., Alliance between Colombia and Mexico, ratified 30 June, 1824. 30 Oct., the Government of Great Britain sends Consuls to the new States of South America.

1824 21 Jan., the English troops defeated by the Ashantees. 10 Feb., Bolivar is named Dictator by the Congress of Peru. 5 March, Lord Hastings, the Governor General of India, declares war against the Burmese. 19 April, Death of Lord Byron. 30 April till 9 May, Disturbances in Lisbon: departure of Prince Miguel. 5 May, the English take Rangoon. 16 June, Commercial Treaty between Great Britain and Denmark. 3 July, the Capitan-pacha takes and destroys Ipsara. 16 July, Iturbide effects a landing near Soto la Marina: the 19th July, he is taken and shot. 22 July, Peace between Great Britain and Algiers. The English drive the Ashantees from Cape Coast Castle. 6 Aug., Bolivar defeated Canterac near Al Samos. The Capitan-pacha repulsed with the loss of three ships, &c. 16 Sept., Death of Louis XVIII.; Charles X. succeeds. 3 Oct. Treaty between the States of America and Colombia. 6 Oct., Sea-fight near Mitylene and Scio between the Turks and Greeks, in which the former were worsted; two ships burnt. 12 Oct., Provisional Government in Greece: Conduriotti and Panuzzo Notara, Presidents. 19 Nov., Hurricane on the coasts of England, Holland, Denmark, Sweden, and Russia. Inundation of Petersburg. 23 Nov., total evacuation of Moldavia by the Turks. Disorder prevails in Greece; Colocotroni hoists the standard of revolt against the government. Mechanics' institutions began.

1825 2 Feb., Treaty of Commerce concluded at Buenos Ayres between Great Britain and the United Provinces of Rio de la Plata. 26 Feb., Landing of Ibrahim Pasha between Coron and Modon. 28 Feb., Convention concluded between Russia and Great Britain, for the freedom of navigation, the commerce and fishery on the Pacific Ocean, and the frontiers of the North West coasts of America. 10 March, Bolivar is again invested with the Dictatorial power in Peru. 13 March, Treaty of Alliance concluded between Colombia and Guatemala. 17 April, Decree of the king of France, confirming the independence of St Domingo in consideration of a money-payment. 18 April, Treaty of amity, commerce, and navigation, concluded between Great Britain and Colombia. 19 April, The Egyptians defeat the Greeks near Forgi. 29 April, The Mexican government ratifies the treaty of commerce and navigation concluded between Great Britain and Mexico. 12 May, Miaulis burns, in the Port of Modon, one corvette, three brigs, and six transports, belonging to the Egyptians. 18 May, Navarino surrenders to Ibrahim Pasha. 22 May, Colocotroni set at liberty by the Greek government. Coronation of Charles X. at Rheims. 1 June, the Greeks defeated by Ibrahim Pasha. 2 June, the Greek fleet defeats that of the Capitan Pasha between Cape Oro and the Isle of Andros. Ibrahim Pasha takes Calamata, and 23 June, *Tripolizza*. 5 July, Ibrahim Pasha defeats Colocotroni near Tricorpha. 21 July, the government of the Netherlands opens its ports in the East Indies to the ships of all nations. 24 July, Resolution of the provisionary government of Greece to have recourse to the protection of England. 4 Aug., the Greek fleet forces the Ottoman squadron to quit the latitude of Missolonghi. 6 Aug., the provinces of Upper Peru declare their independence, and take the name of the Bolivian Republic. 29 Aug., Treaty concluded between Portugal and Brazil. 26 Sept., Treaty of commerce and navigation concluded between Great Britain and the Hanse Towns. 15 Nov., the king of Portugal ratifies the treaty concluded with Brazil, and takes the title of Emperor. 18 Nov., the Spaniards entirely evacuate Mexico. 1 Dec., Death of Alexander, Emperor of Russia. 1, 2, 5. Dec., General Campbell defeats the Burmese near Prome.

1826 3 Jan. War between Brazil and Buenos Ayres. Bhurtpore, besieged from 23 Dec. 1825, is stormed by the English troops under Lord Combermere. 20 Jan., Sir A. Campbell defeats the Burmese near Malloun. 22 Jan., Capitulation, and 23, surrender of Callao; Peru entirely evacuated by the Spaniards. 26 Jan., Treaty of navigation concluded between Great Britain and France. 28 Jan., the Greeks disperse the Ottoman fleet: Missolonghi is revictualled. 24 Feb., Peace concluded at Yandaboo between the East India Company and the Burmese. The Burmese pay one million pounds sterling, and surrender a great extent of territory. Death of D. John VI., Emperor and King of Portugal. 23 April, Ibrahim Pasha takes the ruins of Missolonghi. Resolved by the national assembly at Epidaurus, to invite the English ambassador to Constantinople, to arrange that the Greeks should govern themselves, by paying a yearly tribute to the Porte. Don Pedro gives a charter to Portugal, and confirms (26 April) the Regency. 2 May, Don Pedro abdicates in favour of his daughter, Donna Maria di Gloria. Decree issued by the government of Mexico for the suppression of titles. 7 May, Ibrahim Pasha disperses and drives the Greeks from the heights which command the road of Calavista. 8 May, Resolved by the Mexican Senate, never to listen to any proposition made by Spain or any other power, unless the basis of it should be the full and entire acknowledgment of the independence of Mexico. 14 May, Denmark celebrates a festival in commemoration of the introduction of Christianity, which happened a thousand years before. 15 May, Earthquake at Grenada. Treaty of amity and of commerce concluded between the East India Company and the king of Siam. 19 May, Treaty of navigation between Great Britain and Sweden. 19 May, Departure of the Ottoman troops from Moldavia and Wallachia. 20 May, Cabinet decree of the king of Prussia, that the commerce and navigation of Great Britain and of its possessions beyond sea, should be treated like those of the most favoured nations, as long as the Prussian subjects should enjoy the advantages granted to them by the Act 6, George IV., chap. 114. 25 May, Opening of the first Congress of the Bolivian republic. 29 May, Resolution of the Porte concerning the organisation of a new army in the Ottoman empire. 1 June, Landing of the Greeks near Salonichi, and battle with Omer Pasha. Death of Carl Maria Von Weber, in London. 14 June, Insurrection of the Janissaries on the night of the 14th and 15th of June, at Constantinople; of which the consequence is, a fresh organisation of the Ottoman army. Convocation of a general congress in Chili, to frame a Constitution. 9 July, Popular insurrections against the charter, in Portugal, mostly at Chaves, Braganza, Estremos, and Villaviciosa. The insurgents march towards Spain. 11 July, the National Congress constitutes Chili a confederative state. 18 July, the king of Persia, resolved to commence hostilities with Russia, assembles his army near Ardebil. 22 July, death of Piazzi, the astronomer, at Naples. 7 Aug., Victory of the English troops and their allies over the Ashantees. 8 and 9 Aug., Ibrahim Pasha defeated by the Mainotes. 14 Aug., the national assembly of Greece is called together in the island of Poros. 15 Aug., the Serasquier Reschid Pasha takes the city of Athens. 19 Aug., the Congress of Lima names Bolivar president of the republic for life. 30 Aug., a conflagration which breaks out at Constantinople, reduces 6,000 houses to ashes. 3 Sept., the emperor Nicholas crowned at Moscow. 19 Sept., Solemn reception of Lord Ponsonby at Buenos-Ayres, ambassador extraordinary of Great Britain. 28 Sept., Russia declares war against Persia. Admission of the Colombian flag to the ports of France. 30 Sept., Epidemic distempers prevail on the northern coasts of Europe, and particularly in Holland, in consequence of the inundations of 1825, and of the great heats of the summer. 4 October, the Infant Don Miguel takes the oath of fealty to the Portuguese Constitution, at Vienna. 6 Oct., Insurrection raised against the Portuguese Constitution, by the Marquis of Chaves. 29 Oct., Betrothing the Infant Don Miguel with the Infanta Donna Maria di Gloria, queen of Portugal, by procuration, at Vienna. 13 Nov., Convention concluded between Great Britain and the United States of North America, concerning the indemnities to be granted to the American subjects injured by the war. Bolivar returns to Bogota. 23 Nov., Treaty concluded between Great Britain and Brazil for the abolition of the slave-trade. 3 Dec. The Portuguese rebels take Lamego. 5 Dec., Death of Flaxman.

1827 1 Jan. The king of France submits to the Chambers a project of law for the suppression of the Slave Trade. 5. The Duke of York *d.* 10 April, Mr Canning appointed First Lord of the Treasury. 13. Captain Clapperton *d.* at Sockatoo. 30. The king of France disbands the National Guard. 8 Aug., Mr Canning *d.* 29 Sept., Captain Parry returns from his unsuccessful expedition to the North Pole. 5 Nov., French Chambers dissolved.

1828 1 Jan. Conspiracy discovered in Mexico. 4. Change in the French Cabinet; the ministry of Villele and Peyronnet dissolved. 18. Count Capo d'Istrias arrives in Greece, and assumes the office of President. 25. The Duke of Wellington appointed First Lord of the Treasury. 2 Feb. The National Assembly of Greece convoked by the Senate. 3 March, Abdication of the crown of Portugal by Don Pedro, in favour of Donna Maria. 2 April, Opening of the National Convention of Colombia. 9. Montilla's insurrection in Colombia. 25. Decree issued by the president, fixing the division of Greece. 26. Declaration of war by Russia against Turkey. 8 June, Passage of the Danube by the Russian advanced guard. 13. Bolivar proclaimed Dictator at Bogota. 24. Don Miguel's forces defeat those of the Junta at Oporto. 25. The three estates of Portugal declare Don Miguel legitimate king of Portugal. 17 July, Sailing of the first division of the French expedition to the Morea. 6 Aug. Convention betwixt the viceroy of Egypt and Sir Edward Codrington, for the evacuation of the Morea by the Egyptian troops. 25. Santander's conspiracy against the life of Bolivar frustrated. 4 Oct. Ibrahim Pasha evacuates the Morea. 11. Surrender of Varna to the Russians. 10 Nov. Siege of Silistria raised by the Russians.

1829 10 Feb. Pope Leo XII. *d.* 27. Diebitsch assumes the command of the Russian army in Turkey. 31 March, Cardinal Castiglioni elected Pope, under the name of Pius VIII. 10 April, Catholic Relief Bill carried in the House of Lords. 9 May, Lepanto taken by the Greeks. 29. Sir H. Davy *d.* 18 June, Silistria surrenders to the Russians. 23 July, The Greek National Assembly commence their sittings at Argos. 4 Aug. Change in French ministry; Polignac, Bourmount, and Bourdonnaye, appointed to the principal offices. 20. Adrianople entered by the Russian army. 14 Sept. Treaty of peace signed between Russia and Turkey. 23 Dec. Revolution in Mexico. 30. The Welland canal, connecting the lakes Erie and Ontario, opened.

1830 22 Jan. Extensive fire at Constantinople. 8 March, Sudden inundation of the Danube. 30. The Grand Duke Louis of Baden died, and was succeeded by his brother Leopold. 4 April, The Grand Duke of Hesse died, and was succeeded by his son Louis. [illegible] May, Treaty of amity concluded between the Porte and the United States. 25. French expedition against Algiers sails. 26 June, George IV. *d.*; William IV. proclaimed king of Great Britain. 28 to 30 July, Continued conflicts in the streets of Paris between the populace and regular troops; the former successful; Charles X. leaves Paris. 2 Aug. Charles X. abdicates in favour of the Duke of Bourdeaux. 7. The Chamber of Deputies resolve to acknowledge the Duke of Orleans king of the French. 25. Revolution breaks out at Brussels. 8 Sept. Riots in Brunswick; flight of the duke. 9. Political commotions in Dresden. 30. Independence of the South American republics acknowledged by France. 3 Nov. Change of ministry in France. 22. Formation of new ministry in England; Earl Grey, premier. 29. Polish revolution commenced at Warsaw. 17 Dec. Bolivar *d.* 26. Recognition of the independence of Belgium by the allied powers.

1831 12 Jan. Cholera appears in St Petersburg. 2 Feb. Cardinal Mauro Capellari elected Pope, assuming the title of Gregory XVI. 1 March. The ministerial measure for Parliamentary Reform introduced to the Commons by Lord John Russell. 14. The appointment of M. Casimir Perrier to the ministry of France in the place of Lafitte announced. 31 Defeat of the Russian army by the Poles. 7 April, Revolution at Brazil. Don Pedro abdicates in favour of his son Don Pedro II. 20 April, Reform Bill defeated in the House of Commons. 27 April, Charles Felix King of Sardinia died, and was succeeded by Charles Albert, late Prince Carignan. 28 May, New constitution given to Denmark. 4 June, Prince Leopold elected King of Belgium. 10. Death of the Russian general Diebitsch; he is succeeded by Paskewitch. 2 August, Great fire at Pera, a suburb of Constantinople. 21. Insurrection against Don Miguel suppressed. 8 Sept. Coronation of their Majesties. 7 Oct. New Reform Bill rejected in the House of Lords. 9. Capo d'Istrias assassinated. 4 Nov. Cholera appears at Sunderland.

No. X.—A CHRONOLOGICAL TABLE OF THE PRINCIPAL GEOGRAPHICAL DISCOVERIES OF MODERN EUROPEAN NATIONS.

861 *Feroe Islands*—discovered about this time by a Scandinavian vessel.

871 *Iceland*—discovered by some Norwegian chiefs, who were compelled to leave their native country. According to some accounts it had been visited before this, by a Scandinavian pirate, Naddodd.

950 *Greenland*—discovered by the Icelanders about this period. The first colony established there was destroyed by a pestilence in the 14th century, and by the accumulation of ice which prevented all communication between Iceland and Greenland.

1001 *Winenland*—a part of the continent of America, is supposed to have been discovered by the Icelanders. It was called Winenland, or Vinland, from the abundance of a species of vine found there. The Icelandic chronicles are full and minute respecting this discovery.

1314 *Madeira.*—The discovery of this island, attributed to an Englishman, Robert Macham; it was revisited in 1419 by Juan Gonzalez, and Tristan Vaz, Portuguese.

1315 *Canary Isles*—discovered by some Genoese and Spanish seamen, having been known to the ancients.

1364 *Guinea*—the coast of, discovered by some seamen of Dieppe, about this period.

1418 *Porto Santo*—discovered by Vaz and Zarco, Portuguese.

1419 *Madeira*—discovered by the same navigators. It was first called St Lawrence, after the Saint's day on which it was seen:—and subsequently Madeira, on account of its woods.

1[illegible] *Cape Bojador* or *Nun*—doubled for the first time by the Portuguese

1449} 1445} *Senegal River*—discovered by the Portuguese.

1446 *Cape Verd*—discovered by Denis Fernandez, a Portuguese.

1448 *Azores Islands*—discovered by Gonzallo Vello, a Portuguese.

1449 *Cape Verd Islands*—discovered by Antonio de Noli, a Genoese in the service of Portugal.

1471 *Island of St Thomas*, under the Equator, discovered.

1481 *Congo*—discovered by the Portuguese, under Diego Cam.

1486 *Cape of Good Hope*—discovered by Bartholomew Diaz. It was originally called "The Cape of Tempests," and was also named "The Lion of the Sea," and "The Head of Africa." The appellation was changed by John II., King of Portugal, who augured favourably of future discoveries from Diaz having reached the extremity of Africa.

1492 *Lucayos* (*or Bahama*) *Islands.*—These were the first points of discovery by Columbus. *San Salvador*, one of these islands, was first seen by this great navigator, on the night of the 11th or 12th of October, in this year.

Cuba, Island of } *Hispaniola*, or *St Domingo* } discovered by Columbus in his first voyage.

1493 *Jamaica* } *St Christopher's* } *Dominica* } discovered by Columbus in his second voyage.

1497 *Cape of Good Hope*—doubled by Vasco di Gama, and the passage to India discovered.

1497 *Newfoundland*—discovered by John Cabot, who first called it Prima Vista and Baccalaos. The title of Prima Vista still belongs to one of its capes, and an adjacent island is still called Baccalao.

1498 *Continent of America*—discovered by Columbus.

Malabar, Coast of—discovered by Vasco di Gama.

Mozambique, Island of—discovered by Vasco di Gama.

1499 *America, Eastern Coasts of*—discovered by Ojede and Amerigo Vespucci. (It is contended by some that this preceded by a year the discovery of the American Continent by Columbus.)

1500 *Brazil*—discovered 24th April by Alvarez de Cabral, a Portuguese, who was driven on its coasts by a tempest. He called it the Land of the Holy Cross. It was subsequently called Brazil, on account of its red wood; and was carefully explored by Amerigo Vespucci, from 1500 to 1504.

1501 *Labrador and River St Lawrence*—discovered by Cortereal, who sailed from Lisbon on a voyage of discovery for the Portuguese.

1502 *Gulf of Mexico.*—Some of the shores of this Gulf explored by Columbus on his last voyage.

St Helena, the Island of—discovered by Jean de Nova, a Portuguese.

1506 *Ceylon*—discovered by the Portuguese. Ceylon was known to the Romans in the time of Claudius.

1506 *Madagascar, Island of*—discovered by Tristan da Cunha, and revisited by the Portuguese navigator Fernandez Pereira, in 1508. This island was first called St Laurence, having been discovered on the day of that saint.

1508 *Canada*—visited by Thomas Aubert. Known before to fishermen who had been thrown there by a tempest.

Ascension Isle—discovered by Tristan da Cunha.

Sumatra, Island of—discovered by Siqueyra, a Portuguese.

1511 *Sumatra*—more accurately examined by the Portuguese.

Molucca Isles—discovered by the Portuguese.

Sunda Isles—discovered by Abrew, a Portuguese.

1512 *Maldives.*—A Portuguese navigator, wrecked on these Islands, found them in occasional possession of the *Arabians.*

Florida—discovered by Ponce de Leon, a Spanish navigator.

1513 *Borneo and Java.*—The Portuguese became acquainted with these Islands.

1513 *South Sea.*—The Great Ocean was discovered this year from the mountains of Darien, by Nugnez de Balboa, and subsequently navigated by Magellan. The supposition of the New World being part of India now ceased.

1515 *Peru*—discovered by Perez de la Rua.

1516 *Rio Janeiro*—discovered by Dias de Solis.

1516 *Rio de la Plata*—discovered by the same.

1517 *China*—discovery of, by sea, by Fernand Perez d'Andrada.

1517 *Bengal*—discovered by some Portuguese thrown on the coast by a tempest.

1518 *Mexico*—discovered by the Spaniards. Conquered by Cortez, in 1519.

1519 *Magellan, Straits of*—passed by Magellan with a fleet of discovery, fitted out by the Emperor Charles V. The first voyage round the world was undertaken by this navigator; and his vessel performed the enterprise, although the commander perished.

1520 *Terra del Fuego*—discovered by Magellan.

1521 *Ladrone Islands*—discovered by Magellan.

1521 *Philippines.*—This archipelago discovered by Magellan, who lost his life here in a skirmish.

1524 *New France.*—The first voyage of discovery made by the French under Francis the First, one of whose ships, after reaching Florida, coasted along as far as 50 degrees north latitude, and gave to this part the name of New France.

1524 *North America*—travelled over from Florida to Newfoundland by Verrazzani, a Florentine, in the service of France.

1525 *New Holland*—discovered by the Portuguese about this time: this immense tract was for some time neglected by Europeans, but was visited by the Dutch at various periods, from 1619 to 1611. This fine country is now colonised by the English, and every year adds something to our knowledge of its extent and its peculiarities.

1527 *New Guinea*—discovered by Saavedra, Spaniard, sent from Mexico, by Cortez.

1530 *Guinea*—the first voyage to, made by English ship for elephants' teeth.

1534 *Canada*—visited by Cortier, of St Malo; a settlement having previously been made in 1523, by Verrazzani, who took possession in the name of Francis I. of France.

1535 *California*—discovered by Cortez.

1537 *Chili*—discovered by Diego de Almagro, one of the conquerors of Peru.

1541 *Labrador*—discovered by a French engineer, Alphonze.

1541 *India*—the first English ship sailed to, for the purpose of attacking the Portuguese.

1542 *Japan*—discovered by the Portuguese, Antonie de Meta and Antonie de Peyxoto, who were cast by a tempest on its coasts.

1545 *Potosi*, Mines of—discovered by the Spaniards.

1552 *Spitzbergen*—observed by the English, but mistaken for part of Greenland. Visited by Barentz, a Dutch navigator in search of a north east passage, in 1596

1553 *White Sea.*—This sea, which had not been visited since the time of Alfred, was now supposed to be discovered by Chancellor, the English navigator.

Nova Zembla—discovered by Willoughby, an English seaman.

1575 *Solomon's Isles*—discovered by Mendana, Spaniard, sent by the Governor of Peru.

1576 *Frobisher's Strait*—discovered by the English navigator whose name it bears.

Greenland—further explored by Frobisher, who also penetrated farther between this country and Labrador.

1577 *New Albion*—discovered by Drake, who was the second to attempt a voyage round the world, which he performed in three years.

1580 *Siberia*—discovered by Yermak Timopheievitch, Chief of Cossacks.

1587 *Davis' Strait*—discovered by the English navigator whose name it bears, in his voyage for the discovery of a north-west passage.

1594 *Falkland Islands*—discovered by the English navigator, Hawkins.

1596 *Marquesas*—discovered by Mendana, a Spaniard, on his voyage from Peru to found a colony in the Solomon Isles.

Solitary Island—discovered by Mendana on the above-named voyage.

1606 *Archipelago del Espirito Santo*—discovered by Guiros, a Portuguese, sent from Peru. These islands are the Cyclades of Bougainville, and the New Hebrides of Cook.

Otaheite—supposed to be discovered by Gui- , who named it Sagitta

1607 }
1610 } *Hudson's Bay*—discovered by the celebrated English navigator, Hudson, on his third voyage. Venturing to pass the winter in this Bay on his fourth voyage, he was, with four others, thrown by his sailors into a boat, and left to perish.

1607 *Chesapeak Bay*—discovered by John Smith.

1615 *Straits of Le Maire*—discovered, with the island of Staten on the east, by Le Maire, a merchant of Amsterdam, and Schuten, a merchant of Horn.

1616 *Cape Horn*—doubled by Le Maire and Schouten, Dutch navigators, who called it after the town of which Schouten was a native. These enterprising men performed a voyage round the world in about two years.

1616 *Van Dieman's Land*—discovered by the Dutch.

1616 *Baffin's Bay*—discovered by William Baffin, an Englishman. The nature and extent of this discovery were much doubted, till the expeditions of Ross and Parry proved that Baffin was substantially accurate in his statement.

1636 *Frozen Ocean.*—In this year the Russians discovered that this ocean washed and bounded the north of Asia. The first Russian ship sailed down the Lena into this sea.

1642 *New Zealand*—with the southern part of Van Dieman's Land, discovered by Tasman, a Dutch navigator.

1654 *Bourbon*—Isle of, occupied by the French.

1673 *Louisiana*—discovered by the French. This country received its name from La Salle, a Frenchman, who explored the Mississippi, in 1682.

1686 *Easter Island*—discovered by Roggewe Dutch navigator.

1690 *Kamschatka*—the principal settlement of the Russians on the coast of Asia, discovered by a Cossack chief, Morosko. This country was taken possession of by the Russians in 1697.

1692 *Japan*—Carefully visited by Kemfer, a German.

1699 *New Britain.*—This island, and the straits which separat[illegible] from New Guinea, discovered by Dampier. This enterprising seaman made a voyage round the world at the period of this discovery.

1711 *Kurile Isles*—occupied by the Russians. The people of these islands, which are twenty-one in number, still pay tribute to Russia. They are principally volcanic.

1728 *Behring's Strait*—explored and designated by a Danish navigator in the service of Russia, whose name it bears. Behring thus established that the continents of Asia and America are not united, but are distant from each other about thirty-nine miles.

1728 *Kamschatka*—ascertained by Behring to be a peninsula.

1741 *Aleutian Isles*—on the coast of North America, discovered by Behring. A more accurate survey of these islands was made under the Russian Government, by Captains Billing and Sarytchef, from 1781 to 1798.

1765 *Duke of York's Island*—discovered by Byron.

Isles of Danger—discovered by Byron.

1767 *Otaheite*—discovered by Wallis.

1778 *Cook's Strait*—discovered by Captain Cook on his first voyage round the World, which occupied from 1768 to 1771.

1770 *New South Wales*—discovered by Captain Cook.

1772 *Island of Desolation*—the first land south of India, discovered by Kerguelen, and called by his name. Subsequently called the Island of Desolation by Captain Cook.

1774 *New Caledonia*—discovered by Cook in his second voyage, 1772—1775.

1778 *Icy Cape*—discovered by Captain Cook.

1778 *Sandwich Islands*—discovered by Cook in his third voyage, which commenced in 1776. He lost his life in 1779.

1797 *Bass's Straits.*—Mr Bass, Surgeon of H.M.S. Reliance, penetrated as far as Western Port, in a small open boat, from Port Jackson, and was of opinion that a Strait existed between New South Wales and Van Dieman's Land. In 1799, Lieut. Finders circumnavigated Van Dieman's Land, and named the Strait after Mr Bass.

1804, 5, 6 *Missouri* explored to its sources by Captain Lewis and Clarke, and the origin and source of the *Columbia* ascertained.

1819 *Barrow's Straits*—discovered by Lieut. Parry, who penetrated as far as Melville Island, in lat. 74 deg. 26 min. N., and long. 113 de. 47 min. W. The Strait was entered on the 3d August. The lowest state of the thermometer was 55 deg. below zero of Fahrenheit.

1819 *New South Shetland*—discovered by Mr Smith, of the brig William, bound to Valparaiso.

1819 }
1822 } *North America*—the northern limits of, determined by Captain Franklin, from the mouth of the Coppermine River to Cape Turnagain.

1821 *Asia*—The northern limits of, determined by Baron Wrangel.

1825-6 *North America*—Franklin's second expedition, in which the coast between the mouths of the Coppermine and M'Kenzie's rivers, and the coast from the mouth of the latter to 149½ W. long. were discovered.

1827 *North America.*—In August of this year, Captain Beechey, in H.M.S. Blossom, discovered the coast from Icy Cape to Point Barrow, leaving about 140 miles of coast unexplored between this Point and Point Beechey. Point Barrow is in 156½ W. long.

APPENDIX.

SINCE the earlier volumes of our work passed through the press and came into the hands of our subscribers, many important and eventful pages have been added to European history, geographical science has also been enriched by at least one splendid discovery: to render our volumes as complete a summary of history and geography as possible, and carry down our information to the latest period, we have resolved to embody such additional facts as, if now compiling our "Popular System of Geography" anew, we should have inserted in the body of the work, in the form of an appendix; and we shall take the same opportunity to supply the results of the recent census of Great Britain, and of that of America, together with some important statistical documents which have been published since the preceding parts of our work were issued. And in the first place—to take our subjects in the order which has been observed in the course of our work—we find our attention strongly arrested by the recent glorious struggle for liberty maintained so gallantly and against such fearful odds by

POLAND.

We have already sketched the history of this country till it disappeared from the list of independent European states; we have also detailed the history of those most infamous transactions,—its three successive dismemberments by its rapacious and unprincipled neighbours. The transactions of which it has been so recently the theatre, and to which we are now about to direct the attention of our readers, seem to render it necessary that we should specify at some length the terms of the constitution given by Alexander of Russia to the kingdom of Poland, in December 1815, the violation of which led to the late heroic though unfortunate contest.

The principal articles of the constitution were as follows:—The government consists of three states, namely, the king, and an upper and lower house of parliament. The executive power is vested in the king and his officers. The monarch is to be hereditary; he declares war, appoints the senators, ministers, counsellors of state, bishops, &c, convokes, prorogues, or dissolves parliament. The king may appoint a lieutenant, who must either be a member of the royal family or a Pole. The king or his lieutenant is assisted by a state council, consisting of the ministers of administration ex officio, and counsellors, whom the king may choose to appoint. The ministerial administration is divided into five departments:—1st. The department of public education.—2d. Judicial department, chosen from the members of the supreme tribunal.—3d. Home and police department.—4th. War department.—5th. Finance department. Each of these departments is under the control of a minister. The ministers are responsible for any act or decree contrary to the constitution. The king and the two houses of parliament form the legislative authority. The senate, or upper house, consists of princes of the blood royal, bishops, palatines, and castillans. Their office is for life, and they are appointed by the king. The senate, however, presents two candidates for a vacancy, and the choice rests with the monarch. A senator is required to pay taxes to the amount of 12,000 Polish florins. The number is never to exceed half of that of the lower house.—The lower house consists of 77 members, to be elected by the nobles in the dietines, one for each district, and 51 members elected by the commons.—The qualifications for a member are, that he must be of the age of 30 years, and pay annual taxes to the amount of 100 Polish florins. Every member vacates his seat by accepting a civil or military office. The electors among the commons are landholders, manufacturers, and those having a stock or capital to the amount of 10,000 florins, all curates and vicars, professors, public teachers, &c., all artists distinguished for talent, whether in the useful or elegant arts.—The diet is to meet every second year at Warsaw, and to sit thirty days. All motions are decided by a majority of votes, and a bill passed in one house is to be then forwarded to the other. All money bills must be read in the lower house first. The king's consent is necessary to every bill. The supplies were to be voted every four years. Religious toleration was guaranteed as well as the liberty of the press; and no person was to be punished without the sanction of the laws. Such was the constitution to be enjoyed by the kingdom of Poland; Lithuania formed a distinct province governed by its ancient laws.

It is not at all surprising that the state of political excitement which has lately pervaded Europe, should have spread to this country, where so many causes were in operation, calculated at once by their nature to excite, and by their overwhelming extent to suppress, the desire of freedom, and the thirst for retribution. The constitution secured to the Poles by the charter of 1815, had promised, we have seen, to give to Poland the privileges, if not the name, of an independent state, and the Powers of Europe were pledged to take care that the treaty was fulfilled. But the hopes of the Polish nation were grievously disappointed. The charter was in many important points evaded, in others openly violated; personal liberty, the liberty of the press, and even the life of the subject, were found to be entirely within the power of the tyrannical Constantine; the army and the citizens suffered alike from capricious tyranny and odious exaction; the interest of Poland was in every point of view sacrificed to that of Russia; Russian subjects grew rich in posts of trust in which the most unprincipled peculation was committed without shame, and without rebuke; every means were taken to subdue the national spirit, and to render the proud nobles of Poland the submissive vassals of Russia. But though power may crush the physical energies, insult and injury only excite the patriotic feelings of a brave nation; and in the case of the Poles, only a slight impulse was wanting to set the current in motion; the train was prepared, ready to be fired by a spark.

The death of the emperor Alexander, in 1826, was the first signal of revolutionary movement. The objects and the extent of that conspiracy have never transpired, but the cruelties and the violations of the charter which followed, left an indelible impression on the minds of the people. Secret associations, for promoting the cause of independence, were formed in 1828. To these the officers of the army, the pupils of the military academies, and the students of the university of Warsaw united themselves in considerable numbers. It has been supposed that the progress of the revolution in France supplied the impulse, which was wanting to bring on this consummation. Besides this, a number of causes were in operation. The former grievances were redoubled; new acts of tyranny had been threatened; and, above all, it was understood to be the intention of the emperor Nicholas to remove the Polish army to the southern frontier of his dominions, and in their stead to send an army of Russians, with the obvious view of confirming his power over a people already ripe for revolt. The 29th of November 1830 opened the struggle. The students of the military school were the first called to arms. The person of the grand duke was their first object, and they proceeded instantly to his palace of Belvidere, situated about two miles from Warsaw. By the assistance of a faithful servant, however, the tyrant escaped; but some of his servants, among whom was the hated vice-president of police, Lubowidski, and many soldiers of the Russian guard, fell victims to the popular resentment. Meanwhile, other bodies of conspirators paraded the streets of Warsaw, rousing the inhabitants and the army. The arsenal was seized and arms distributed to forty thousand citizens, the prisons were opened, and the public offices taken possession of. In a few hours the Russian power in Poland had fallen. The escape of the grand duke was at first precipitate; he had not time to collect the necessary clothing for such a journey as now lay before him; his attendants were equally ill-provided, and he was in imminent danger of falling into the hands of the insurgents. But a few hours sufficed to restore order in Warsaw, and one of the earliest acts of the administrative council, was to offer every facility for the departure of the duke, with his artillery and baggage.

On the evening of the 29th, the administrative council assembled. This consisted of Prince Adam Czartorinski, Prince Michael Radziwill, General Chlopicki, General Pac, the Castillan Rochonowski, and the post and state secretary M. Niemcevicz. Assisted by the advice of the more eminent among the citizens, it was determined that the authority of the emperor should be still acknowledged, and in consequence the first proclamations were issued in his name. On the 2d of December, a deputation waited on the grand duke, who was still in the neighbourhood of Warsaw. They represented to him, the moderate intentions of the insurgents, which were as yet limited to the restoration of the constitutional form of government provided for by the charter. Having stipulated for an unmolested retreat, the grand duke dismissed that portion of the Polish army which still remained in his suite, offered to mediate with the emperor in case of submission, and set off for St Petersburg, accompanied by three regiments of Russian cavalry, and two regiments of infantry.

The Poles were now unanimous in their desire for freedom, and in a surprisingly short period, the government was arranged; and, if we except the most active preparations for defence, every thing went on as if no insurrection had occurred. But in such cases, it seldom happens, that the conflicting interests of parties, or of individuals, do not introduce a certain degree of discordance into the operations of government. To find a remedy for this evil was not easy, but the firmness of General Chlopicki supplied it. On the 5th of December, he proposed to assume the office of dictator; and, fortunately for Poland, was immediately confirmed in it. In Warsaw there were two parties: the one, inclined to support the original moderate proposal of the government,—the other, suspicious of the faith of Russia, and desirous of forming an independent kingdom. To the former party belonged Chlopicki. Desirous of avoiding a war, he entered into negotiations with the court of St Petersburg, and employed all his influence to bring about a reconciliation. But the violent party prevailed, the throne was declared vacant, and on the 18th of January 1831, General Chlopicki resigned the dictatorship. Though disapproving of the measures of his countrymen, and therefore declining the command of the army, his patriotism was not less than theirs, and he expressed his willingness to serve even in the ranks. In consequence of this, Prince Radziwill was appointed to the command of the army. The Russian emperor was no sooner informed of the turn which affairs had taken in Poland, than by his conduct he destroyed the last hopes of a peaceful issue. His proclamations of the 17th and 24th of December were full of threatenings, while the most just demands were repulsed with insult or passed over in silence. War was declared, and Field-marshal Count Diebitsch was appointed commander of the Russian forces. The first of the marshal's proceedings was the issuing of a proclamation addressed to the citizens and warriors of Poland, calling upon them to submit, pledging his honour as a soldier for the fulfilment of the articles, and threatening the refractory with condign punishment.

The Russian army entered Poland from different points, on the 2d and 3d of February. They were under the command of Diebitsch and Pahlen, and amounted in all to 72,000 men. The Poles could not muster above 40,000 regular soldiers; but the national guard, consisting of every one who could bear arms, amounted to 300,000, and the patriotism of the country was completely roused. Men of all ranks worked at the fortifications; every one contributed his money or his valuables to the common fund. The head quarters of the Poles were Warsaw and Modlin.

From this period to the conclusion of the struggle there remains little to be noticed but a series of hostile movements, in which sometimes the Russians, sometimes the insurgents, were victorious. The first blow was struck on the 8th of February. The former dictator, General Chlopicki, had joined the army, and now served as a private soldier in the vanguard. By the 17th the enemy had approached so near, that the streets of Warsaw were blockaded, and cannonading was heard in the distance on the side of Praga. On the 19th the Polish army was forced under Praga, and retreated towards the city, setting fire to Praga, in order to cover their retreat. A great engagement took place on the 26th, when two to three thousand Poles fell, and the rest were driven within the walls. The utmost consternation prevailed; Prince Radziwill resigned his command, and the provisional government appointed Skrzynecki his successor. Matters were now in a situation so critical, that on the 28th Warsaw was reported to have surrendered, but the reports of the 6th of March showed that though surrounded by enemies, resistance had not been ineffectual. The state of the weather also proved a serious obstacle to the proceedings of the Russian army. The rivers were impassable, and the roads unfit for travelling, so that even the besiegers were suffering more from want of supplies than the besieged. On the 30th of March, General Skrzynecki, at the head of 25,000 Poles, attacked the Russian army during the night, and repulsed them with great loss. On this occasion 2,000 Russians were killed; the wounded and prisoners amounted to seven or eight thousand. The neighbourhood of Warsaw was thus cleared of the enemy, and the struggle was carried on with vigour in other parts of the country. A signal victory was gained by the Poles on the 25th of April, at Bernshezko, under the command of General Dwernicki, when two Russian regiments were cut to pieces, and other two deserted and joined the insurgents. In spite of this advantage the Poles were obliged to retreat, though in the attempt to follow them the Russians suffered great loss; the cholera had also now made its appearance among them, and was extending rapidly through the surrounding country. The Austrian government, who pretended to be mere lookers-on in the matter, had an opportunity of showing their friendship to Russia about this time. Dwernicki and a considerable body of his troops had been forced by the Russians to take refuge on the Austrian territory, where they were seized, disarmed, and carried prisoners into the interior. By the 23d of April, cholera had extended to a great extent, and 1110 had fallen victims to its ravages. On the 26th of May a sanguinary conflict took place at Ostrolenka, when the loss of the Russians amounted to 4000, and that of the Poles to 8000 killed and wounded. On the same day, however, a considerable victory was gained near Narewha by General Chlapowski. The insurrection in Lithuania was at last suppressed, and hopes of the ultimate success of the cause of freedom were brought to a very low ebb. A series of losses hastened the crisis; and Warsaw surrendered after two days' bloody fighting before the walls, on the 11th of September. The Russian army, whose loss amounted to two or three thousand men, took possession of the town; the Polish army was scattered in small bodies over the country; on the 24th the national diet was dissolved, the members dispersed, and the insurrection ceased.

Since these events Russia has gradually resumed her tyrannical sway. The estates of Polish nobles have been transferred to the leaders of the victorious army, and the leaders of the patriots have been obliged to seek protection in other lands. It is probable that in future the sufferings of the Poles will be greater than ever, while the watchful suspicions of their oppressors will render it almost impossible for them to renew their struggles for freedom. Large numbers of the Poles have taken refuge in foreign countries. It is said that in Prussia alone, there were lately 13,000, and that these have offered to enter the service of the king of Belgium.

Since our statistical details of this country were published, we have received the result of the census of 1829, from which it appears that the total population of Russian Poland, exclusive of the army, was 4,088,299 souls, which are thus classed:

Employed in agriculture, (householders) . .	1,871,259
Their families and servants, ...	2,221,188
In manufactures, ...	140,377
Their families, ...	358,035
Tradesmen, ...	49,888
Their families, ...	131,331
Landed proprietors, ...	4,205
Copyholders, ...	1,886
Freeholders in towns, ...	41,634
Employed under government, ...	8,414
Patients in the 592 public hospitals, . . .	5,376
Prisoners in the 76 prisons, ...	7,926

The population of the towns is to that of the country as 1 to 5. The religious statistics are as follows:

Roman Catholics, ...	3,400,000

Greek church,	100,000
Lutherans,	150,000
Calvinists,	5,000
Jews,	400,000
Other sects,	5,000

GERMANY.

The spirit of revolution, which has been abroad during late years, has not failed to appear in Germany; and the wisdom of some governments has led them to effect or to promise a change where the state of public feeling began to intimate that such a change was necessary, and that, if a little was not given, a great deal might be exacted. The value of constitutional freedom is now more generally known than formerly in this country, and the desire for its possession is almost universal.

During the minority of the duke of BRUNSWICK, a constitution had been granted to his subjects. On his accession to the throne, however, in 1829, this prince annulled the act by which that boon had been conferred, and proceeded to a number of acts of caprice and violence. The interference of his uncle and guardian, George IV., was repelled with insult; the faithful counsellors, under whom the duchy had flourished during his minority, were banished or imprisoned; the remonstrances of the diet were unheeded; and the privileges of his subjects wantonly aggressed. Remonstrances proving vain, the diet was reduced to the necessity of offering the alternative of an invasion, or the fulfilment of certain articles. The articles related to the restoration of the constitution, and submission to the authority of the diet. It was not till armies were ready to march upon him that even this decision produced its effect on the duke, who, with a characteristic folly and cowardice, collected all the money he could, left his dominions, and fled to Paris. He had been but a short time there, when the events of July 1830 obliged him to return home. No public joy was expressed at his return on the 13th of August. Irritated at this, he resumed his former conduct. He put no confidence in his subjects; surrounded himself with foreigners; and dismissed or insulted every public servant whose conduct had gained for him the confidence of the people. He even went so far as to order a public rejoicing to be regarded as a disturbance, and grape shot to be fired upon the people. The remonstrances of the citizens—whom none of his outrageous deeds had as yet roused to any act of rebellion or riot—were replied to by a show of military force, followed of course by an aggravation of those feelings which he intended to repress. On the 6th of September the populace attacked the duke as he returned from the theatre, and with difficulty he escaped into his palace. Still willing to continue their allegiance to him, the magistrates and some respectable citizens waited on the duke, and represented the urgent necessity for a change of measures. The immediate convocation of the states, and the removal of the cannon which had been displayed in front of the palace, were urged in vain; and to put a finishing stroke to his folly, the duke declared his determination to resist by military force every attempt at an insurrection. The castle was accordingly garrisoned; and the citizens took up arms, and on the 7th prepared to attack the palace. Finding that the people had risen almost unanimously, and that disaffection had even spread to the soldiers, the duke was seized with a panic and fled from the popular indignation. His palace was unfortunately burned in the first moments of popular triumph, but in a short time order was restored. The states met, and an offer of the sovereignty was made to Duke William, the brother of the deposed prince. The offer was accepted, the constitution was confirmed, and the new prince is now securely seated on the throne which the folly of his brother had lost.

SAXONY has also seen its day of revolution. The king had attempted to invade the religious privileges of his people, and the example of other countries had taught them that redress might be obtained by a very slight struggle. The inhabitants of Dresden therefore rose; and after disarming a few soldiers, burning the office of police, organizing a body of civic guards, and parading the streets, they brought the king to a capitulation. A constitutional form of government was given, the grievances were redressed, and the nephew of his majesty was appointed his co-operator and successor in the government. The submission of the king was the more readily obtained, as, at the same time, the students of the university and public schools of Leipsic had risen, disarmed the police and military, and taken the town under their own protection.

The prince of CASSEL has also been obliged to yield to the remonstrances of his subjects, and institute a more liberal form of government than formerly. He had been avaricious and tyrannical, but a slight show of resistance brought him to his senses. The government is now divided between the king, the nobles, and the people, on principles sufficiently liberal.

A disturbance of the public peace which occurred in the kingdom of HANOVER, in the beginning of 1831, deserves to be noticed. On the 8th of January, a number of advocates and young graduates put themselves at the head of a mob and expelled the police of Göttingen. A burgher-guard was immediately formed by the students of the university for the purpose of preserving order, but they were soon won over, and joined the original insurgents in opposition to the royal troops. The gates of the town were closed, and attempts made to inflame the inhabitants of the surrounding country against the government. The causes of complaint were chiefly the arrangements of the police, though more important political topics were occasionally mentioned. The first measure taken by the duke of Cambridge, as governor-general, was to warn the inhabitants by a proclamation of the 13th, that submission alone could prevent the effusion of blood, offering at the same time an indemnity to all. In a few days the inhabitants came to their senses and opened the gates. "No blood has flowed—no shot has been fired," said a Hanoverian journal, "the work of insurrection, begun by fools and evil-intentioned persons, has fallen, and Göttingen is once more the seat of order and peace." Upon this submission the university was closed, and the students ordered to return home within a limited space of time. Slight punishments were inflicted on the ringleaders, and in a short time perfect quiet was restored. Some demonstrations of public feeling, however, rendered it expedient that something should be done to insure general confidence and satisfaction. The duke of Cambridge was therefore invested with vice-regal power, and the privileges of the people increased, since which nothing has occurred to disturb the harmony of the states.

SWITZERLAND.

Recent transactions require that we should devote some portion of our appendix to the continuation of our historical chapter on Switzerland, and a more full elucidation of its federal constitution.

The new federal pact adopted by the diet in 1815, continues in force to this day, and contains the following principles: the twenty-two cantons mutually guarantee their independence and territory, and are bound to assist each other for this purpose. Upon the demand of any one canton, the federal diet is to send assistance to defend the country and preserve the peace. Disputes between the cantons to be referred to the diet, and decisions of the latter to be submitted to. The free passage of provisions and goods from one canton to another is guaranteed. No new tolls or duties on exportation or importation, can be laid without the consent of the majority of the cantons. As there are no longer subjects in Switzerland, so the enjoyment of political rights can never in future be the exclusive privilege of any class of citizens in any one canton. The high-federal diet represents the whole Swiss nation; it consists of the deputies of two-and-twenty cantons, having each a single vote. The deputies are appointed by the cantons for each session, and receive instructions from their respective governments. The diet assembles by turns in the towns of Bern, Zurich, and Lucerne, two successive years in each. The ordinary session begins on the first Monday of July, and lasts one month at least. Its president is the chief magistrate of the canton where it assembles, which canton is called the *voorwor* or directing canton. Between the end of one session and the beginning of the next, the direction of the federal affairs is intrusted to the executive of the directing canton, who must afterwards render an account of its proceedings to the following diet. In cases of urgency, and on the demand of five cantons, or even of the directing canton singly, an extraordinary diet is convoked. In similar circumstances also, the diet can, before its recess, invest the *voorwor* with extraordinary powers, or associate to it representatives of the federation, to act as a federal directory. The diet declares war, concludes peace, and alliances or treaties of commerce with foreign powers; it appoints envoys and consuls; it directs the organization of the federal troops, appoints the general, colonels, and staff; it calls upon each canton to furnish its contingent whenever required, and directs the employment of the federal forces, &c.

The recent local changes and revolutions have not affected the general constitution of the Swiss nation; but various causes have operated to modify the respective constitutions of different cantons. In the old democratic cantons, which are six in number, viz: Schwytz, Uri, Glarus, Zug, Untenvalden, and Appenzell, little or no alteration has been made from their first declaration of independence to the present day. In these the *landsgemeinde*, or general assembly of all the citizens, constitutes the supreme power, and has always been found irresistible when roused into action. The two cantons of the Grisons and Valais may be also considered as democracies. A second class of cantons consists of those in which aristocratic institutions have long prevailed. These are Bern, Friburg, Soleure, Zurich, Lucerne, Basle, and Schaffhausen. All these cities were in the middle ages free imperial towns; and, as they successively detached themselves from the empire, their municipal administration became the basis of their respective constitutions; and the inhabitants of the cities continued to hold exclusive privileges over those of the country districts. This state of things was formally abolished in 1803. In 1814 the towns made an attempt to resume their privileges, but were ultimately compelled to allow about one-third of the seats in their legislative councils to be filled by representatives from the country districts. The third class of cantons, generally known by the name of the new cantons, had popular representative governments till 1814, when a variety of complex machinery was introduced into the frame work of their governments in order to check a too democratic tendency.

Such was the political condition of the various states of Switzerland in the early part of 1830. Many grounds of complaint, however, existed throughout the union. The system of civil and criminal laws was exceedingly defective in many of the cantons; the councils and diet held their sittings in private; and above all, the press groaned under a severe censorship. Various addresses had been presented in different cantons, praying for a revision of the constitutions of 1814, but these had all been either treated with silence, or contemptuously rejected. The canton of Ticino, in which the worst abuses seem to have prevailed, was the first to set the example of reform. A project of constitution on liberal principles was proposed by the executive council, adopted by the legislative council, submitted to and sanctioned by the general assemblies of the circles, and ultimately proclaimed as the new constitutional law of the state. It established the system of direct election by the citizens, the elections to be renewed every four years. The members of the legislative cannot fill any situation under the executive. The members of the latter, as well as those of the high court of judicature, cannot be at the same time members of the great council. The sittings of the great council are public. The councillors of state are elected for four years, at the expiration of which they may be re-elected for four years more only. The liberty of the press, the inviolability of persons, and the right of petition, are parts of the fundamental law; no tax can be laid without a majority of two-thirds of the great council. All lotteries and public games of chance are forbidden. The present constitution cannot be modified before a lapse of twelve years, and then any modification of it must be submitted to the approval of the primary assemblies of the people.

These principles, with more or less modification, have been since adopted in most of the other cantons of Switzerland, although not without considerable opposition, especially in the old aristocratic cantons. The contest betwixt the new and old party was strongest at Basle, where the landsgemeinde and citizens came to an open rupture; but tranquillity was ultimately restored in this quarter also in Feburary 1831. The democratic cantons took little part in the events of 1830-1.

BELGIUM.

The union of Holland and Belgium was never satisfactory to the majority of the inhabitants of the southern states. Every exertion on the part of the government of Holland to conciliate the Belgians was regarded with distrust; every trifling inroad upon their privileges or their prejudices was reviewed with universal discontent. There cannot be a doubt, that the terms of the treaty which united the kingdom of the Netherlands in 1814, were never strictly complied with by the Dutch government; but the grievances were by no means great. It was not a restriction of personal freedom that was complained of; the press was unshackled, the church was free, but the people were discontented. Their king was not a Belgian, his interests were therefore supposed to be at variance with those of his Belgian subjects; and no appearance of kindness and of sincerity on his part could reconcile them to his government. A fatal error was committed in the attempt to amalgamate the two nations. Differing in character, in religion, in name, and in language, the Belgians and the Dutch could not agree; mutual jealousies were early excited, and the attempt to force a union served only to widen the breach. The causes of complaint urged by the Belgians were: the share of the national debt of Holland which was laid upon them, the unequal division of the representative power, and the partiality shown to the Dutch in the distribution of public offices. These complaints were certainly made with good reason, and though the happiness and personal liberties of the Belgians were but little interfered with, there cannot be a doubt of their right to demand a separation in consequence. To a certain extent, however, the consequences of this national discontent were restrained by another cause. This was the state of France. In deserting Holland, Belgium must from her situation either throw herself under the protection of France, or shape her line of policy so as to insure the neutrality of the French government. For a long time, the alternative thus presented did not offer strong inducements for a change. France was now under the power of the Jesuit party, and the press was restricted, while at home the church and the press were equally free. The liberal party in Belgium, therefore, continued to support the king and the established order of things, lest by admitting into Belgium the interest of France, a change might be productive of greater grievances than those that were complained of. Towards the close of 1829, the catholic and the liberal party coalesced, and the discontent was more openly expressed than ever. In every measure proposed by the government, the Belgian deputies found something to complain of, and by unremitting exertions were frequently successful in their opposition; and their exasperation was brought to a height, when the king, in a message of the 11th December, denounced the press as the agent of sedition, and called upon the deputies to impose restrictions upon it. The decennial budget was rejected by a majority consisting almost entirely of Belgians, and the general cry was, "No redress,—no supplies!" The conduct of the king upon this, was such as to add to his unpopularity. He withdrew the pensions and dismissed from various posts about the court several individuals, whose integrity had caused them to join the opposition. This measure, though affecting only a few individuals, was received by the Belgians as a national injury; the discarded courtiers were covered with honour, a subscription was raised to remunerate them for their losses, and the press raised its voice in favour of them and all who should display a similar spirit.

To the plan for a subscription, some individuals added another of a much more improper and dangerous nature. The scheme originated with M. de Potter, who was at that time in prison for a libel against the government. He proposed to form a Belgic confederacy, for the support of all persons who should suffer in the performance of their duties, and even for indemnifying all those whose interests might suffer in what he and his confederates considered a legal resistance to power. The publication of his letter, in the journals of the 3d February, 1830, excited the indignation of the government, and measures were taken for the prosecution of the editors of the *Courier de Pays Bas*, *Le Belge*, and *Le Catholique*, whose papers were seized, and themselves committed to prison. De Potter was already in prison; his papers were also seized, and a prosecution was commenced against him. Public feeling in Belgium was strongly excited in favour of these men, and thus the efforts of the government, though successful in subduing the immediate operations of their opponents, failed entirely in the most important object, that of destroying their influence with the people.

The trial of the prisoners was delayed till the 16th of April, and continued for sixteen days. The result was the condemnation of M. de Potter to an exile of eight years, MM. Theilmans and Bartels for seven, and M. Nève for five. In addition to this illiberal policy, the Dutch government contrived that France and Prussia should refuse them an asylum, so that for three months they were detained on the frontier of Belgium, till permission was obtained for them to pass onwards to Switzerland.

The excitement of public feeling was now raised to a high pitch. The attempt to exclude the French and to introduce the Dutch language in courts of law and the debates in the chamber of deputies, had given rise to much discontent, and the consequences might now have been serious, had not an ordinance of the 7th of June repealed the interdict which had in 1825 been issued against the use of the French language. This concession gave satisfaction, but it was not of sufficient importance, and came too late to calm the spirit of the opposition party. Nothing less than the dismissal of the minister of justice, Van Maanen, would now have satisfied the people; but the king remained obstinately blind to the important influence which this step would have had; the press continued as violent as ever; and the renewed prosecutions of the editors of popular journals prevented the ferment from subsiding.

Affairs were in this condition, when the revolution in France produced a contagious effect on the minds of the Belgians. The fear of falling into the hands of France, in case of a separation from Holland, was completely removed; and the distant hope of a neutrality, on the part of that power, was changed into an almost certain prospect of co-operation. Even the ministerial journals expressed a fear, that the influence of French opinions in Belgium would soon prove too strong for the government. Yet no proper means were taken to allay the public ferment, while the court displayed its fear and confessed its weakness, by suspending the illuminations and fire-works provided for the celebration of the king's birth-day; in addition to which, the removal of the seat of government, from Brussels to the Hague, gave a further occasion to the journals for inflaming the public mind.

The revolution was begun by a mob. A large mass of people, who had assembled on the 25th of August, to hear the opera of the *Muette de Portici*, being disappointed of their object by the smallness of the theatre, turned their attention, as is usual on such occasions, to mischief. The first object which came in their way was the printing office of the *National*, the principal government paper. From this they proceeded to the house of the editor, who had rendered himself obnoxious by his opposition to the Belgic union. This being totally demolished, they made an attempt to reach the Place Royale, from which they were deterred, partly by a show of resistance and partly by entreaties. The hotel of Van Maanen, however, was attacked and burned. De Potter was not forgotten, "Down with Van Maanen!" and "De Potter for ever!" was heard in every street, as the rioters traversed the city in search of new objects whereon they might wreak their vengeance. Hitherto, the military and the gendarmerie had made but trifling exertions to restrain the rioters. During the night, however, different parties of military attacked the mob, and where resistance was made, fired upon them, so that a considerable number were killed.

Early in the morning, a large body of the respectable citizens applied to the burgomaster and council of the city, to supply them with arms for the defence of the public peace. Their request was complied with, but to their dismay, it was found that the mob was also furnished with arms, having attacked the barracks and seized the depôt of arms and ammunition kept there. This imminent danger was averted, however, by the good management of the respectable citizens. It being supposed that they were sufficiently numerous to defend the town, the military retired, which had an instant effect in calming the passions of the mob, who soon laid down their arms or sold them for small sums to the citizens. Before mid-day, the disturbances had completely ceased. But as the riot was quelled, the revolution began. The members of the Belgic union could not fail to perceive, what a favourable crisis had occurred for the completion of their plans. The citizens were armed, the military removed, and a mob was ready to rise at a moment's warning,—and no sooner was the suggestion given, than those who had taken up arms to establish order, prepared to use them for establishing a new form of government. In the course of the 26th, five thousand men were in arms to protect the city and intimidate the government,—the Brabant colours took the place of those of the house of Orange at the Hôtel de Ville,—and the authors of the revolution assumed the rule, without openly denying the authority of the king, but on the contrary acting in his name.

The example of the people of Brussels was immediately followed by those of Louvain, Liege, Ghent, and Antwerp; where, though the mob did not proceed to a similar work of destruction, the citizens obtained arms and put a check upon the operations of the military. In a few days, the mob of Brussels attempted to resume their outrages. Machinery was destroyed and houses burnt, and it was only at the expense of many lives, and an arrangement for the supply of their wants, that temporary quiet was obtained.

Meanwhile, preparations were made for sending a deputation to the Hague, to represent to the king the state of public feeling, to explain what had been done, and what was desired. The members of the deputation were Count Felix de Mesode, M. de Secus, Baron Joseph de Hoogvorst, M. Gendebien, and M. Palmairt. To them were intrusted an address, representing the circumstances already described, and praying for an immediate convocation of the states-general. But among the other demands which the deputation was instructed to press upon the king, we may mention the dismissal of Van Maanen,—the freedom of the press,—the removal of restrictions upon education,—trial by jury in criminal matters,—the establishment of ministerial responsibility,—the establishment of the high court of justice in the south,—and, in a word, the perfect fulfilment of the charter or fundamental law. Another deputation of the same kind from Liege set out on the 27th of August. On their arrival at the Hague, they waited at once on his majesty, who appointed the next day for an audience. He received them with every appearance of frankness and cordiality, listened with attention to the statement of grievances, and informed them that the demand of the address had been anticipated by a convocation of the states-general which had been appointed for the 13th of September. With respect to some other demands, he pointed out their obviously unreasonable nature, as addressed to him, within whose jurisdiction they did not lie. The dismissal of the obnoxious ministers was decidedly in his power, and it was unfortunate for him, that he did not at once make a concession which would have put a stop to further demands. Having dismissed the deputations, his majesty came to the determination of sending his sons, the prince of Orange and Prince Frederick, with powers to redress grievances, as well as an army to enforce submission. At Antwerp, where the disaffection to the house of Nassau was comparatively small, they were well received. At Brussels, however, their appearance with an armed force was looked upon with suspicion, and a deputation was sent to meet them at a short distance from the city, for the purpose of persuading them to give up the idea of restoring the military to their former positions, and to enter the town unattended. To this, many objections were made, and a mutual want of confidence appeared, though the circumstances obliged the prince to affect to praise actions of which he could not but disapprove, and to trust those as friends whom he had every reason to suspect of being hostile to his interests. Some symptoms of disturbance in the city, on account of the long absence of the deputies, however, caused the prince of Orange to yield. He was accordingly conducted to his palace by an escort of the civic guard, while the rest of that body, to the number of ten thousand, were ostentatiously displayed in the streets through which he had to pass. In the square of the Hôtel de Ville he addressed the populace, who received him with few of those signs of respect, to which, as heir-apparent of the crown, he was entitled.

A commission was now appointed to wait upon the prince, for the purpose of stating the demands of the people. These were not as before, limited to the fulfilment of the charter, but they aimed at a total separation of the kingdoms of Holland and Belgium, united to the strange proposal, that one sovereign should rule both. To this proposal the prince could offer no objections, and agreed to submit it to his father. To the majority of both nations the scheme was perfectly agreeable, and the desire of the king to restore peace, and at the same time to retain his dominions, induced him to listen with acquiescence to a proposal which seemed to be the ultimate demand of the most discontented of his subjects. Among those who were most open in their calls for this measure, and the most decided in their approbation, were some whose sincerity cannot fail to be doubted, when we find them afterwards united in the most violent opposition to the interests of the house of Nassau.

The conduct of the king, however, on the return of his sons, was not such as to lead to the amicable adjustment of disputed points. By not distinguishing carefully, in his proclamations, between the original rioters, and the present insurgents in Belgium, he offended the latter, while nothing was done to conciliate the former. The suspicions against him were increased by an addition made to the number of military stationed at no great distance from Brussels, and an idea was entertained, that nothing but a display of force would induce him to accede to the proposed change. It was with considerable hesitation that the Belgic members determined upon appearing at the convention of the states-general. A "committee of public safety," being in fact the first step towards a provisional government, consisting of the prince de Ligne, the duke d'Ursel, M. de Stous, Count Felix de Mesode, M. Gendebien, M. Van de Weyer, M. Rouppe, and M. Meaus, was appointed to conduct the affairs of the nation till a final settlement should be obtained.

The meeting of the states-general, on the 13th September, produced nothing satisfactory. The speech from the throne did not exhibit that conciliating spirit which experience has shown to be necessary on such occasions, and even showed a desire to evade the proposed measure, by a reference to the fundamental law. Discontent increased in the south, even the deputies were blamed for want of energy, and the letters of De Potter, who was now in Paris, recalled his schemes of revolt and republicanism. The "committee of public safety" took upon them powers which gave the lie to their professions of allegiance, and encouraged the formation of clubs opposed to the government. In Liege, Naumur, and other towns, actual outrages were committed, and the authority of the king was openly defied. The populace began to resume its sway. Before the 18th of September, the committee had lost its power, and on the 20th it met for the last time in the Hôtel de Ville, when the mob broke in and threatened their lives. An attempt was made to establish a provisional government, but the members of it never appeared, and anarchy alone reigned. The tide of public feeling was now changed, and the respectable part of the community desired nothing more than the presence of the royal troops, to free them from these turbulent champions of freedom. The army now approached under Prince Frederick, who sent before him, on the 21st, a proclamation, which, as it threatened with punishment the chief authors of the revolt, only served to inflame a large number, who came within the terms of the proscription. Resistance or flight only remained to them, and those who had wealth to save adopted the latter. On the 22d the army approached Brussels, and a general panic seized the inhabitants. A very few took up arms, yet no one spoke of submission. Late on the evening of that day, a young barrister left the city, for the purpose of proposing terms to the prince. Instead of being received as an envoy, he was sent as a prisoner to Antwerp, a measure which caused those who had been vacillating to decide upon resistance.

On the 23d the army of the king entered the town, and a sort of desultory warfare took place in the streets. For four days this was continued, with great loss on both sides, but the number of the insurgents increased daily, being augmented by large bodies of volunteers from the cities of the south, so that after a desperate struggle on the 26th, the prince withdrew his remaining force during the night. For several days he continued to harass the neighbourhood of the city, and arrived at Antwerp on the 2d of October, having lost out of 9000 men, from one to two thousand in killed and wounded.

The royal troops had no sooner retreated, than M. de Potter appeared in Brussels, to take the lead in the provisional government. The most vigorous measures were instantly adopted, the whole machinery of government was organised, and on the 4th of October Belgium was declared to be independent.

It was no longer in view to effect a separation of the kingdoms alone; the last blow had severed the slender ties which sustained their attachment to the house of Nassau, they were joined by the army, and the connexion with Holland was declared to have entirely ceased. On the very day on which the provisional government had declared the independence of Belgium, the king acceded to the former demand of the southern states, and sent the prince of Orange to Antwerp to negotiate. Various attempts were made, but they all failed, and before the end of October the prince left Antwerp, on the approach of the Belgic volunteers, and a few hours more sealed, by the bombardment of the city on the 27th, the partition of the kingdom of the Netherlands.

There remained now but two ways of deciding the question between Holland and Belgium,—war and mediation. To the former the people of both countries were sufficiently inclined: but the five great European powers, whose judgment had erected the kingdom of the Netherlands, now interfered, in order, if possible, to settle the affair without further bloodshed. In doing this they had many difficulties to contend with. Besides attending to the rights of the Dutch and the Belgians as men, they were under the necessity of solving some very difficult questions, with respect to the obligations under which they had been brought by treaty to the king of Holland. There were then the questions of extent of dominion, and the division of the national debt to be decided. The first act of the five powers, consisted in the issuing of a protocol from London on the 4th of November, demanding an armistice between Holland and Belgium. This was received at the meeting of the congress of Belgium, as an acknowledgment of their independence. This congress had been called into the assistance of the provisional government, and presented all the characters of a popular assembly, elected by the mass of the nation. The object of this assembly was to decide upon a form of government, and to provide for the present exigencies of the state. A considerable party still remained opposed to the total exclusion of the Orange family from the throne. Of these some were influenced by personal attachment, others by fear, for the citadel of Antwerp, and the fortress of Maestricht, were still held by Dutch garrisons. The party who voted for delay prevailed. The republican principles of De Potter and others, had now fallen into the shade; and a repulse which the former met with in the congress, caused him to resign his post as member of the provisional government. A very early dispute arose, respecting the possession of the grand dutchy of Luxemburg. To the king of Holland it seemed to belong, from its having come into his possession, previous to the union of Holland and Belgium. It had been obtained in exchange for the German possessions of the house of Nassau, and in consequence was taken into the Germanic confederation, giving the king of Holland a voice in the diet. But the treaty which formed the kingdom of the Netherlands, brought the dutchy of Luxemburg into the same position as the other states; the kingdom was declared to be one, and changes on its constitution could be affected at the instance of the states-general alone. If, therefore, the power of revolting gave Belgium a title to be regarded as an independent state, Luxemburg had a right to unite her fortunes in the same cause. Other circumstances might be adduced, proving that in the arrangements of the kingdom of the Netherlands, Luxemburg was regarded by all parties as a Belgian province, and united with the Belgians in supplying a part of the representation. But another party remained to be satisfied. This was the Germanic confederation; of which Luxemburg formed a part, and into which the sovereign of Luxemburg must of necessity enter.

Meanwhile, the Orange party seemed to lose ground in Belgium every time the subject was brought forward. The conduct of the prince of Orange had given rise to doubts of his sincerity, and the violent prejudices which arose out of this were soon extended to every member of the family. The finishing stroke was given to this by the conduct of Russia. On the 29th the diplomatic commission received a message from the emperor, that he could not allow the exclusion of the family of Orange to pass unnoticed. The effect of this was to exasperate those who were already in opposition to the claim, and to alienate the majority of those who had been inclined to favour it. It was intimated to them that the peace of Europe would be sacrificed rather than that the Orange family should suffer, but intimidation failed in its effect and only rendered them more violent. The armistice was now agreed to, and the congress proceeded to their internal arrangements. The Orange family was excluded from the throne, which was declared vacant; the monarchy was declared to be hereditary, and the legislation to consist of two houses, the one a chamber of deputies, and the other a chamber of senators, chosen by the people and continuing in office for eight years.

The throne was now to be filled. Many names were put on the list, so that at one time no less than seventeen were before congress. After a violent contest the suffrages were divided between a son of Prince Eugene and of Louis Philip of France.

The questions of territory and debt remained undecided till the month of January 1831; when the claims of Belgium were declared to be inferior to those of Holland Limburg, Luxemburg, the part of West Flanders opposite to Antwerp, with the left bank of the Scheldt, which were claimed by Belgium, were given to Holland; and of the debt, sixteen parts out of thirty-one have been given to Belgium, the remainder being left to Holland.

This arrangement gave no satisfaction to the Belgians, and the congress determined to have recourse to arms for the attainment of their rights.

The election of a king was brought to a conclusion for the first time on the 3d of February 1831, when the duke of Nemours, son of Louis Philip, was declared elected by 97 votes; 74 having declared themselves for the duke of Leuchtemburg, and 21 for the archduke Charles of Austria. In the name of his son, however, the king of the French refused the crown of Belgium, and the affair was thrown once more into an undecided state. Meanwhile the regency was held by Baron Chokier. The uncertain condition of public affairs gave boldness to the Orange party, and it was now currently reported that they were gaining ground. Riots were not unfrequent, especially about the end of March, when anarchy seemed about to resume its sway. Some of the members of the national congress, confident of the powers of the people, had the madness to propose to break through the armistice, and trust to arms alone for a settlement of the dispute with Holland. In April, Prince Leopold of Saxe-Cobourg was proposed as king of Belgium, an honour, which, after much negotiation, he declined in the month of June following. However, as matters were assuming a better aspect, he did not refuse the second invitation, which took place on the 11th of July, when he was elected by a majority of 56 in the congress. In the letter declaring his acceptance, he urged the admission of the independence of Belgium, in the following terms:—"it being understood that it will belong to the congress of national representatives to adopt the measures which can alone constitute the new state." One of the earliest acts of this assembly, after his accession, was to accede to the mediation of the conference of London.

On the 16th, Prince Leopold set out for his new kingdom, and arrived in Brussels on the 21st, having visited on the way several other towns, and been received with distinguished honours. This proceeding on the part of the Belgians was far from being acceptable to the king of Holland ; and on the fourth of August hostilities were renewed. The army of Belgium being yet far from well organized, Leopold demanded the assistance of France. The assistance which he sought was granted, and 40,000 men were sent to Belgium under the command of Marshal Gerard. Before his arrival, however, the troops of Holland and Belgium met on the 9th, when the latter were put to rout, almost without striking a blow. The troops of France were now on the Belgian frontiers; on hearing of which, the king of Holland declared that hostilities should be suspended, and accordingly withdrew his army. This was done under the understanding that the French commander would do the same, but the latter refused to do so, and left 10,000 men in the Belgian fortresses. Negotiations were now renewed by the allied powers, but the demands of the Belgians were not lowered, nor was the king of Holland inclined to abate an inch of his pretensions. The armistice ceased on the 27th of October, but the preparations made by the Dutch were chiefly defensive, and in a short time the king of Holland agreed to a further armistice of four months. In the course of the negotiations, the commissioner on the part of France, demanded the demolition of the Belgian fortresses on the French frontier, which has been with much reluctance acceded to. The policy of France in this particular has not been pleasing to the Belgians, or indeed to the rest of Europe. In an address to the chamber of deputies in July, the king of the French described them as fortresses "erected to threaten France without protecting Belgium ;" a description which may suit his views, but will not be generally admitted to be strictly just. A final arrangement has been proposed by the allied powers, in a treaty of February 1832, to which Belgium has acceded, though it remains very doubtful whether Holland will give her consent. By this treaty the new kingdom of Belgium is to consist of the provinces of South Brabant, Liege, Naumur, Hainault, West and East Flanders, Antwerp, with part of Limburgh, and Luxemburg. The new boundary by which Luxemburg is divided begins on the French frontier at the 6th degree of longitude, passes north to Strimfort, from Strimfort to Martilange, from Martilange it follows the course of the Seine to Tintange, from Tintange it passes to the frontier of the circle of Diekirch, which it follows to the Prussian frontier. In return for the large portion of Luxemburg thus ceded to Belgium, Holland is to have that part of Limburg which lies on the right bank of the Maese, the town of Maestricht, and a very small territory in the immediate neighbourhood. The navigation of the Scheldt is to be subject to a joint superintendance ; the canals of both countries are to be equally open to the vessels of both nations, and the commercial communication through Maestricht and Sittardt is to be on no account impeded. The debt of the former kingdom of the Netherlands has been so divided that Belgium shall pay annually the sum of 8,400,000 florins.

The population of Belgium in 1831 was about the following amount :—

	Square miles.	Population.
East Flanders	1,232	708,705
West	1,512	575,807
Hainault	1,706	567,300
Liege	2,173	347,625
Antwerp	1,049	338,294
Naumur	1,236	194,845

	Square miles.	Population.
Limburg about	1,785	328,234
Part of Luxemburg	2,302	298,655
	14,459	3,859,193

The taxes of Belgium under the late administration amounted to 38,808,319 fl. of which 7,793,197 were raised by a tax on property.

The forces of Belgium are by no means accurately known. The Belgian portion of the army of the Netherlands was 48,100 men, but of late considerable additions have been made to it. The legislature of Belgium consists of a national congress. These were formerly nominated by the government, but the election is at present popular.

FRANCE.

The French revolution of July 1830 was effected by a mob. The *troops of the king were expelled from the city, the power of the government* was suspended, but little or nothing had been effected towards a permanent change in the state of the kingdom. When the mob had done its work, the operations of the higher classes were scarcely begun. On Thursday the 29th some members of the chamber of deputies met at the house of M. Lafitte for the purpose of taking such measures as should insure the fruits of the victory just achieved. A proclamation congratulating the Parisians on their success was prepared, and a provisional government was appointed, consisting of the duke de Choiseul, General Lafayette and General Gerard. The Hotel de Ville was taken as the seat of government, and a body of civic militia was instantly organized for the protection of the lives and properties of the citizens.

Charles was at St Cloud, and in the course of the evening sent a deputation to the Hotel de Ville, little doubting that he would find the people willing to listen to his promises of justice and offers of concessions. The answer brought back was the first announcement to him that his reign had ceased. On the 30th, Paris was quiet, and a municipal commission was appointed, in which Lafitte, Casimir Perier, Barne Louis, Count de Laborde, and M. Baveaux were conspicuous members.

The chamber of deputies now assembled to the number of 89, and proceeded to prepare for the future well-being of the state. The duke of Orleans was immediately invited to assume the executive power, which he did on the evening of the 30th, with the title of Lieutenant-general of France.

The duke has been accused by the partizans of the late king of having fomented the disturbances, and blamed for not assuming the reins of government in the name of Charles or the duke of Bourdeaux; but an attentive consideration of the circumstances cannot fail to lead to a conviction of the absurdity of such accusations: that his principles were revolutionary can never be denied; but he was not a leader, he followed the current, and he stepped into a place of power, which events, over which he had no control, rendered it his duty to take. In the appointment the peers were not consulted; the deputies alone did the work; and it was not till after a proclamation, issued on the 1st of July, had informed the people of the position his royal highness had assumed, that a recognition of his authority was sent in by the other body of the legislature. As the people were not yet disposed to remain satisfied, a proclamation was prepared by the assembled deputies, setting forth the advantages proposed to be derived from the change, and promising a perfect fulfilment of the terms of the charter. In the terms of this proclamation, the duke cordially acquiesced, and accompanied the deputies to the public reading of it at the Hotel de Ville. When this was finished the municipal commission laid down their power, and commissioners were appointed by his royal highness, to act the part of a temporary ministry. M. Guizot thus took the place of the minister of interior, while Baron Louis entered on the department of finance, General Gerard on that of war, M. de Reinhart on that of foreign affairs, and M. Dupont de l'Eure on that of justice.

The duke of Orleans now renewed the ordinance convoking the chambers on the 3d of August. The speech which he delivered on that occasion, as lieutenant-general, was couched in the language of the revolution, and raised him in the good graces of all but the few royalists who were present. He announced the abdication of the throne by the late king and the dauphin, but he concealed the intelligence that this abdication was made in favour of the duke of Bourdeaux. Casimir Perier was called to the presidency of the chamber of deputies, and the sittings were declared permanent till the government was established, and the charter revised. After the debates of the 6th and 7th of August, they concluded the important business of remodelling the charter, deposing the family of Bourbon, and appointing to the vacant throne the duke of Orleans, as Louis Philip, king of the French. The rights of the duke of Bourdeaux were supported by a small party, whose voice was overwhelmed by numbers.

The modifications introduced into the charter were considerable and important. A complete separation of church and state,—perpetual freedom of the press,—the right of proposing laws and electing their own president secured to the chamber, are among the important features of the remodelled charter. The peerages conferred by the late king were annulled, and separate laws provided for various matters considered of importance to public liberty. The sittings of the chamber of peers were declared to be public, and a hint was given that at a future time the question of hereditary peerages would be tried. The popular privileges were increased, and the defence of the nation committed into the hands of a national guard, whose officers were to be elected by the people.

When the duke of Orleans had accepted of the crown, with these conditions annexed, the confidence of the public in the government was in a great measure restored. During the sittings of the 6th, many attempts had been made by the republican party to overawe the deputies, and force them to adopt the republican form of government. But the decision of the chamber suspended the movements of hostile parties, and on the 9th of August the new sovereign was escorted by crowds to the chamber, where he took the oath to the new charter, and received the congratulations of the deputies.

While these events were passing at Paris, the deposed king and his family were suffering at St Cloud many privations and insults. The soldiers soon deserted their posts, with the exception of a few who remained to protect the fallen from insult. On the 2d of August, the abdication of the throne, already referred to, was signed, and the recommendation of Henry V. to the succession, was replied to, by a notice to quit the kingdom as soon as possible. After many attempts to create a division of public feeling in his favour, Charles at last saw the necessity of submission to this measure, and on the 17th of August, sailed from the port of Cherbourg for Great Britain, where he has remained ever since.

On the 12th of August the king issued an ordinance, appointing his first ministry. The first steps taken by these, were to dismiss from all places of trust and honour, those who were friendly to the late government, and thus obtain means for rewarding the partizans of the new one. The editors of popular Journals, who had been mainly instrumental in effecting the late changes, were either taken into the pay of government or rewarded with places of emolument.

The government of Louis Philip was very soon recognised by the Powers of Europe, with the exception of the duke of Modena and the emperor of Russia. The former prince is too insignificant to be considered for a moment. Russia seemed to threaten war, and there is little doubt that the revolution in Poland alone prevented the march of the autocrat on the Rhine, and brought the reluctant credentials to his ambassador in Paris.

The French were not slow in their preparations for any posture which affairs might assume. Before a month had passed, the capital had brought out a body of 60,000 national guards; and the preparations in the departments were not less active.

The four ministers of the ex-king, who had been the chief cause of the revolution, had been taken prisoners very early in the course of these proceedings, and lodged in the castle of Vincennes. On the 13th of August it was moved in the chamber of deputies, that the ex-ministers should be impeached of high treason. A committee with unusual powers, was appointed to inquire into the matter; and, on the 23d September, resolutions were proposed to the chamber,—that the ex-ministers should be accused of high treason, on the grounds of abuse of power, infringement of the charter, and exciting civil war. The articles of impeachment were liable to so many objections, that two days were passed in discussion before the report of the commissioners was agreed to, and on the 30th, the articles were presented to the chamber of peers. The trial commenced on the 15th of December, and lasted to the 21st, when it terminated in the conviction of the ex-ministers, and the sentence of perpetual imprisonment. The popular indignation against the prisoners was such, that reports founded on mere suspicion, that lenity was likely to be shown, were sufficient to excite violent tumults, which nothing but the firmness of the immense body of national guards could have suppressed. The result of the judgment of the court, when it became known that the lives of the culprits were spared, gave rise to the most alarming commotions, especially on the 22d, when it was found necessary to repress them by a display of the whole military force in the capital. An attempt was made to induce the students to join the mob, but it failed, and the vast body of insurgents fell to pieces for want of a leader. The thanks of the chamber of deputies were offered to the national guard, and to the students, but were rejected by the latter with disdain.

The cabinet of France now consisted of M. Dupont de l'Eure, keeper of the seals; M. Guizot, minister of interior; Count de Gerard, minister of war; the duke de Broglia, of public instruction; Count Meli, of foreign affairs; Count Sebastiani, of marine; and Baron Louis, of finance. Besides these, seats in the cabinet were held by MM. Lafitte, Perier, Dupin, and Bignor. The proposals for altering the representation, made by this cabinet, gave general dissatisfaction. The number of electors was to be raised to 160,000, a number much too small to meet the wishes of the people. Lafayette resigned his command of the national guard, and took his place in the ranks of the opposition. The affair remained undecided, and the public discontent began to be displayed without reserve. The impolitic step of restoring to their place in his armorial bearings, the lilies of the Bourbon family, gave a serious blow to the popularity of the king. The voices in the chamber of deputies raised against the measures of government were loud and numerous, and a want of union began to appear within the cabinet itself.

On the 14th of March, 1831, the ministry resigned, and a new one was formed, in which M. Casimir Perier was minister of interior and president of the council. The new ministry did not remain long popular. They were known to be averse to war, and the general voice of the nation called for a war, either by interference in the affairs of Poland, or in those of Italy. So ticklish was the relative situation of France and Austria, with respect to the latter, that a war was generally expected; and on the 15th of March it was actually rumoured that it was declared. A stormy debate in the chamber of deputies on the 4th of April, showed how nearly the parties of the legislature were balanced in their opinions on the momentous question of the propriety of preserving peace. The power of ministers was strengthened on the 12th, by the result of a debate on the electoral law, when the division in their favour showed the number of 300 to 51. On the 11th of May the news of the fall of Poland caused great disturbances in Paris. The tardiness of the government in affording assistance to the patriots, was openly blamed; and so far was the seditious spirit carried, that, at a public dinner, in presence of 200 persons, "Death to Louis Philip!" was drank among the toasts. An unpleasant collision occurred at this time between the king and people. A committee had been appointed to inquire into the services of those to whose exertions the revolution of July was due, for the purpose of bestowing medals commemorative of the event. When the medals came to be distributed, it unfortunately happened, that the persons to whom they were given, were required to swear allegiance to the king; in consequence of which they rejected the proffered honour, and much disagreeable altercation was the consequence. The popularity of the king, however, was soon restored, and on a journey through his kingdom, which he soon after made, he was received with every appearance of loyalty. His ministers were not so fortunate, and the unpopularity of M. Casimir Perier became evident on many occasions, especially during the tumults of the 18th of September, when France seemed again on the eve of revolution.

On the 19th of October, the law for the abolition of hereditary peerages was passed by a small majority in the chamber of deputies. For the purpose of facilitating the passing of the same measure in the house of peers, a creation of 36 new peers took place in the month of November.

The country was not yet tranquil. The state of trade during the past year had given rise to much suffering among the lower classes, in the manufacturing parts of the kingdom. This distress was particularly felt at Lyons, where the discontent increased to an alarming extent among the operatives, and produced a series of tumults in the month of November. Much property was destroyed on the 21st, especially the machinery employed in the various extensive manufactories, the military were expelled from the town, and preparations were made for a continued resistance.

Many lives were lost, and the tumult was with the utmost difficulty quelled. When the news of this reached the court, the king sent his son the duke of Orleans with the minister of war, empowered to promise redress of grievances, and to use force to reduce the refractory to submission. The reception of the prince in his progress through the kingdom was by no means flattering, and gave rise to suspicions of the popularity of the king and government. The bill for the abolition of hereditary peerages has been agreed to by the chamber of peers, but the state of the kingdom is by no means settled. A republican spirit is abroad, and is exhibited on every occasion that can be found. The ministry have received a blow in their demand of a civil list of 18 millions; being answered by a vote of only 12 millions. The state of the finances of France may be estimated from the last ministerial budget. The gross amount was 38,200,000 pounds sterling, of which the debt absorbs 13,800,000, and the general service 17,800,000.

The chamber of deputies is now elected by the votes of 160,000 men, a number by much too small for a populous country like France. The age qualifying for sitting as a deputy, has been reduced from 40 to 30; and electors can vote at the age of 25, instead of 30 as formerly. The effective force was lately stated by Marshal Soult, at 500,000 men, and the national guard at a million and a half.

GREECE.

The affairs of GREECE since the appointment of Capo d'Istrias to the presidency in the month of January 1828, present many points of considerable interest. The conduct of Capo d'Istrias had given reason to hope that his government would be agreeable to the people, but his appointment was scarcely known over the Morea before his real character began to appear. His first act was to abolish the popular form of government, to drive out the constitutionalists from all places of trust, and to supply them with creatures of his own. The money obtained for the service of the state was expended in support of the order of things which he had established, and in a short time Greece was subjected to a government of the most despotic character. Meanwhile the Russian, English, and French governments were carrying on negotiations with the Porte for the purpose of bringing about a settlement of the affairs of Greece. The sultan, however, remained obstinate in his determination to resist all concessions. It was not till the appearance of a Russian army under the walls of Adrianople left him little room for choice, that he listened to their demands; and the questions relating to the boundaries and the sovereignty of the new kingdom were left at the disposal of the conference of London. The principle of Russia had all along been to leave as little as possible to the Porte; that of England, on the other hand, had been to take as little as possible away. On a former occasion, the offer made to the Porte had been liberal; giving the sultan in right a large tribute, and allowing him to retain a feudal superiority over Greece. His refusal was a great political error; for the conference, seeing their power, now decided on the perfect independence of Greece.

The limits of the new principality being defined, the next subject of discussion was the proper form of government. For two years previously, the form of government in Greece had been essentially monarchical, for the president, Count Capo d'Istrias, had been invested with powers not inferior to those of a constitutional king. Experience had shown that no other form of government was adapted to the genius of the people, and it was evident that such was the general feeling in Greece. Unfortunately, however, the Greeks were not formally consulted in this matter, and the consequence was that they threw every obstacle in the way of an adjustment of differences. It became necessary now to find a sovereign for Greece. Several conditions tended to limit the number of candidates for this honour. The first was, that the person elected must possess the rank of a prince; by this means Capo d'Istrias was set aside. Another prevented the choice from falling upon any person connected with the families of the allied sovereigns. Paul of Wirtemburg, one of the princes of Baden, and others were successively rejected, and at last the conference agreed upon Prince Leopold of Saxe Cobourg as the most proper person, which was announced in the same protocol as the settlement of the boundaries. To the English this nomination could hardly fail to be acceptable; the Russians interested themselves very little in the matter; France alone was displeased, but no alternative was left, as Prince John of Saxony, whom Charles X. was willing to support, withdrew from the contest. The Greeks were not consulted, but the conference took upon them to say that "according to the information hitherto received, there *was reason to believe that the Greeks would receive him with gratitude for their sovereign.*"

The crown thus offered to Leopold was one which he made considerable exertions to gain. But now that the offer was made, he found it necessary to proceed with caution. His answer to the announcement of the 3d was not prepared till the 11th of February, and in it he proposed several conditions, an acquiescence in which seemed to him necessary to the security of his future dominion. He expected, in the first place, a guarantee of protection of foreign powers. To this no objection was made. He required, in the second, that the islands of Candia and Samos should be taken under the protection of the allies. In the third, an adjustment of the question of extent of dominion in a manner more advantageous to him. To these conditions the allied powers were decidedly opposed. The fourth demand was for pecuniary assistance; and the fifth for a temporary supply of military. To the fourth and fifth conditions, many objections were stated, and with much difficulty a qualified consent was obtained. The former was answered by a promise, that the French troops then in Greece, should remain there for one year, to enable the prince to make such arrangements as would render their further presence unnecessary. The last of his demands obtained at length a promise of a loan of two millions and a half sterling, one third to be paid by each of the allied powers. The prince now wrote to Capo d'Istrias an account of what had happened. He stated what he had done, and what were his wishes. It was now the turn of the president to repay by stratagem the slight which had been put upon him and the rest of the Greeks, in not consulting them in the negotiation. It was evident that by a statement of difficulties, the prince would be deterred from proceeding, and he determined to set all difficulties in the strongest possible point of view. In his reply to the communication of Prince Leopold, he represented the disturbed state of the country in terms not a little exaggerated; pressed upon his view the numerous inconveniences to which he would be personally exposed; hinted at the necessity of a change in the religion of the prince; and, above all, urged the extension of the boundaries and the possession of Candia as the only conditions on which he "could answer for the peace of the country, or the welcome reception of his roy highness." Representations such as these were far from presenting flatte ing prospects; and the consequence was, that Prince Leopold sent in h resignation on the 21st of May, and Capo d'Istrias gained his point in th continued possession of the presidency for a period apparently indefinite.

Being thus secure for a time of continuing in his situation of presiden Capo d'Istrias now resumed his former line of policy, and pursued th measures which appeared best calculated for establishing his despotic authority. A deputation having waited upon him for the purpose of proposing the convocation of a national assembly, he refused, and in his answe informed them that "they were not fit for liberty, and must not think o it." The general discontent increased. The Mainotes, Hydriotes, Syriotes, and Tariotes, openly revolted from the authority of the president Among the distinguished families who rendered themselves obnoxious to Capo d'Istrias, that of Mauro Michaelis deserves particular notice. They were chiefs of Maina, where they reigned almost as independent sovereigns. *When the revolt of the Mainotes was quelled, their authority was in consequence at an end, and the governor, with his brother and son, went to reside in Napoli. The governor was soon put in prison, while Giorgio and Constantine his brother, soon were put under the surveillance of the* police, and never went about without being accompanied by two armed men. Their indignation at this treatment led them to conspire against the president, and an opportunity of effecting their purpose was soon found. —On the 9th of October 1831, they went accompanied by their guard to the church of St Spiridion, where the president was expected. They remained in the porch, and as soon as Capo d'Istrias entered, Giorgio stabbed him in the side, while Constantine shot him in the back. He fell instantly, and the assassins fled. Constantine was killed in attempting to escape. Giorgio was taken in the course of the next day, tried by a court-martial, and shot on the 23d. The general agitation which followed this event was extreme. The prompt movements of the party of the president secured their power, and his brother Count Augustine assumed the reins of government.

The two reasons which Leopold alleged for his resignation, were the unwillingness of the Greeks to receive him, and their dissatisfaction at the settlement of the boundaries. He said that the answer of the president of Greece to the communication of his appointment, in his judgment, announced a forced submission to the allied powers, and even that forced submission is accompanied by reservations of the highest importance. The president of Greece stated, that the provisional government, according to the decrees of the council of Argos, had no power to convey the assent of the Greek nation: and the government reserved to itself the power of submitting to the prince such observations as they could not conceal from him, without betraying their trust towards Greece and the prince. In regard to the boundaries, his language was, that the uncompromising determination expressed by the Greek senate, to retain possession of the provinces which the allied powers wish to exclude from the limits of the new state, would oblige him either to compel his own subjects, by force of foreign arms, to submit to the cession of their estates and properties to their enemies, or to join with them in resisting or evading a part of that very treaty which places him on the throne of Greece. That one or the other alternative would have been forced upon him was certain, because the part of the country referred to, (Acarnania and a part of Ætolia, which is now to be given up to the Turks,) is, together with the fortress, in the peaceable possession of the Greeks. It is the country from which Greece can best supply herself with timber for building ships; it is the country which has furnished the best soldiers during the war. The chief military leaders of the Greeks have been of Acarnanian or Ætolian families. Subsequently to the arrival in Greece of the protocol of the 22d of March, 1829, and the publication of the assent of the Porte to the excluded frontier in the treaty of Adrianople, all the families which had survived the war returned, and commenced rebuilding their houses and towns, and cultivating their lands. These people will never submit again to the Turkish yoke without resistance, and the other Greeks will not abandon them to their fate. Prince Leopold has been loudly reproached in some quarters, for his having resigned the crown of Greece; and his conduct has been ascribed to fright at the picture which the president, Capo d'Istrias, drew of the state of the country, or to the hope of becoming regent of the British empire, in case of the accession of the minor Princess, Victoria. It is hardly necessary, however, to look beyond the distaste which a man of good feelings would naturally feel to assuming the government of a nation contrary to their will, and becoming, as he must become in such a case, a tyrant. Since the resignation of Leopold, several princes have been proposed as candidates for the throne of Greece. According to the latest accounts, it seems that Prince Otto, son of the king of Bavaria, is the most prominent candidate. By the protocol of 3d February, 1830, the boundary of Greece was settled as follows: On the north, beginning at the mouth of the Aspropotamos, (Achelous,) it runs up the southern bank of Angelo-Castro; thence through the middle of the lakes Sacarovista and Vrachori to mount Artoleria; thence to mount Axiros, and along the valley of Coulouri and the top of Œta to the gulf of Zeitun. Acarnania, and a great part of Ætolia and Thessaly are thus excluded from the Greek state, and a Turkish barrier interposed between Greece and the Ionian islands. Candia, Samos, Ipsarra, &c. are not included. The population of the state is estimated at about 635,000: 280,000 in the Peloponnesus; 175,000 in the island; and 180,000 on the Greek mainland.

BRITAIN.

Since the publication of our article on Britain, some important statistical Tables have appeared, the most valuable of which we are happy to have an opportunity of embodying in our Appendix.

No. I.—ABSTRACT of the NET PRODUCE of the REVENUE of GREAT BRITAIN, in the Years ended on the 10th of Oct. 1830, and the 10th Oct. 1831.

Years ended Oct. 10, 1830.		1831.	Increase.	Decrease.
Customs,	£16,425,742	£15,577,687	. . .	£848,055
Excise,	16,933,577	14,896,521	. . .	2,037,056
Stamps,	6,578,181	6,484,580	. . .	93,601
Post Office,	1,349,006	1,393,011	£44,005	. . .
Taxes,	4,968,450	4,915,110	. . .	23,340
Miscellaneous,	533,633	439,479	. . .	114,154
Total,	£46,808,589	43,736,388	44,005	3,116,206
		Deduct Increase,		44,005
		Decrease on the Year,		3,072,201

No. II.—RETURN from each COLONY or FOREIGN POSSESSION of the BRITISH CROW
the Number of the POPULATION, distinguishing White from Coloured, and Free fro
having LEGISLATIVE ASSEMBLIES, or governed by Orders of the King in Council
of the past Three Years, for which the same can be made out. From Parliamenta

COLONIES.	DATE of CAPTURE, CESSION, or SETTLEMENT.	Whether having LEGISLATIVE ASSEMBLIES, or GOVERNED BY ORDERS IN COUNCIL.
NORTH AMERICA.		
Lower Canada . . .	Capitulation, 18 Sept. 1759 and 8 Sept. 1760 and Cession by Treaty, 1762	Governor, Council, & Assembly .
Upper Canada . . .		ditto ditto ditto
New Brunswick . .	Fisheries and Settlements, established soon after their discovery in 1497 . . .	ditto ditto ditto
Nova Scotia		ditto ditto ditto
Cape Breton . . .		ditto ditto ditto
Prince Edward's Island		ditto ditto ditto
Newfoundland . . .		Governor, Council, and British Acts of Parliament.
		TOTALS . . . .
WEST INDIES.		
Antigua	Settlement, 1632	Governor, Council, & Assembly .
Barbadoes	ditto 1605	ditto ditto ditto
Dominica	Ceded by France, 1763 . . .	ditto ditto ditto
Grenada	ditto 1763 . . .	ditto ditto ditto
Jamaica	Capitulation, 1655	ditto ditto ditto
Montserrat	Settlement, 1632	ditto ditto ditto
Nevis	ditto 1628	ditto ditto ditto
St Kitts	ditto 1623	ditto ditto ditto
St Lucia	Capitulation, 22 June, 1803 . .	Governor and Council, and Orders of the King in Council
St Vincent	Ceded by France, 1763 . . .	Governor, Council, & Assembly .
Tobago	ditto 1763 . . .	ditto ditto ditto
Tortola	Settlement, 1666	ditto ditto ditto
Anguilla	ditto 1666	ditto ditto ditto
Trinidad	Capitulation, 18 Feb. 1797 . .	Governor and Council, and Orders of the King in Council
Bahamas	Settlement, 1629	Governor, Council, and Assembly
Bermudas	ditto 1609	ditto ditto ditto
Demerara and Essequibo	Capitulation, 18 Sept. 1803 . .	Governor and Council, and Orders of the King in Council
Berbice	ditto 23 Sept. 1803 .	ditto ditto ditto
Honduras	Treaty, 1670	Superintendent and Magistrates .
		TOTALS . . . .
GIBRALTAR	Capitulation, 4 Aug. 1704 . .	Governor and Orders of the King in Council
Malta and Gozo	ditto 5 Sept. 1800 . .	ditto ditto ditto
Cape of Good Hope .	Capitulation, 10 Jan. 1806 . .	Governor and Orders of the King in Council
Sierra Leone and Gambia	Settlement, 1787 . . . . . ditto 1631	Governor and Council . . . . .
Ceylon	Capitulation, 17 Sept. 1795 . .	Governor and Council, and Orders of the King in Council
Mauritius	ditto 3 Dec. 1810 . .	ditto ditto ditto
New South Wales . .	Settlement, 1787	Governor and Council, and British Acts of Parliament
Van Diemen's Land .	ditto 1803	ditto ditto ditto
Swan River	ditto 1829	Governor and British Acts of Parliament
		GENERAL TOTALS . . . .

stating the Date at which each COLONY or POSSESSION was Captured, Ceded, or Settled; Slaves, at the latest Period, and as far as the same can be complied with; and whether stating also, the Value of EXPORTS and IMPORTS into each of those Colonies, for each Returns.

POPULATION 1829, OR LATEST CENSUS.				TRADE WITH GREAT BRITAIN.			
				IMPORTS into the United Kingdom, Official Value.	EXPORTS from the United Kingdom, Official Value.	Tonnage to and from the United Kingdom and the Colonies.	
						Inwards. Tons.	Outwards. Tons.
			TOTAL.	1829.	1829.	1829.	1829.
423,630							
188,558			. . . .	569,151	1,117,421	227,[illegible]9	221,694
72,932				213,842	271,9[illegible]2	155,219	133,169
142,548							
23,473			. . . .	61,701	297,966	30,146	31,738
60,088			. . . .	213,628	373,817	17,820	31,246
			911,229				
. . . .			911,229	1,088,622	2,064,126	431,124	418,147
Whites.	Free Coloured.	Slaves.					
1,980	3,895	29,839	35,714	285,500	146,657	9,781	9,367
14,959	5,146	81,902	102,007	189,214	369,528	17,190	20,887
840	3,606	15,392	19,838	141,911	27,478	3,011	2,921
801	3,786	24,145	28,732	359,813	93,015	12,349	11,031
No census	taken.	322,121	322,421	3,711,179	2,761,183	85,710	82,558
330	814	6,262	7,406	40,958	8,302	1,253	944
700	2,000	9,259	11,959	78,278	25,223	1,892	1,996
1,612	3,000	19,310	23,922	192,280	97,234	6,221	6,804
972	3,718	13,661	18,351	157,533	51,505	5,290	4,209
1,301	2,824	23,589	27,714	411,518	99,891	14,379	12,084
322	1,164	12,556	14,042	158,385	51,368	6,594	6,913
477	1,296	5,399	7,172	33,213	5,666	1,317	606
365	327	2,388	3,080	—	—	. .	—
4,201	15,956	21,006	41,163	694,001	361,077	22,224	20,474
1,210	2,991	9,268	16,199	17,915	51,524	1,360	1,338
3,905	738	1,608	9,251	4,901	21,817	620	2,256
3,006	6,360	19,467	28,833	1,762,105	502,236	55,250	53,687
552	1,151	21,319	23,022	325,051	51,587	7,710	6,070
250	2,266	2,127	4,643	190,795	792,278	11,181	8,817
. . . .	. . . .	. . . .	798,769	9,087,914	5,521,169	263,338	252,992
17,024	nil.	nil.	17,024	34,535	1,117,615	1,795	10,126
104,189 15,180	. . . .	. . . .	119,969	20,784	505,359	2,034	7,906
55,675	37,[illegible]2	35,[illegible]9	129,036	238,133	383,127	8,069	7,705
87	15,123	. . . .	15,210	258,570	511,779	27,912	31,909
21	2,192	. . . .	2,216				
6,414	906,389	20,464	933,267	202,668	46,496	1,309	3,018
8,844	15,851	76,774	101,469	451,998	280,530	12,824	6,391
20,930	. . . .	15,668	36,598	92,528	250,620	8,979	28,719
9,421	Aborigines not ascertained	Convicts 8,484 Convicts	17,905	83,191	58,913		
850	. . . .	. . . .	850	. . . .	37,210		
2,229,725		829,665	3,083,512	11,508,943	10,777,214	757,375	767,213

INDIA.

III.—THE following official statement of the extent and population of British India has appeared since the publication of our Table, at p. 413 of vol. IV., with which it may be compared. It is from the Appendix to the Report of the Select Committee of the House of Commons, on the affairs of the East India Company, bearing date, 11th October, 1831. The superficial extent is stated to have been ascertained by measurement on a MS. Map. The population of the Lower Provinces is given on the authority of a memorandum appended to the Police Report of Mr Henry Shakespeare, superintendent of Police in 1822: that of the Upper Provinces is given on the authority of a similar report of Mr Walter Ewer, in the year 1826.

STATEMENT OF THE EXTENT AND POPULATION OF BRITISH INDIA.

BENGAL PRESIDENCY,—*Lower Provinces.*

Division and District.	Extent in English Sq. Miles.	Population.	Division and District.	Extent in English Sq. Miles.	Population
CALCUTTA.			MOORSHEDABAD.		
Burdwan, ...	2,000	1,187,580	Bhangulpore, . . .	7,270	797,790
Jungle Mehals, . .	6,990	1,304,740	Purnea, ...	7,460	1,362,165
Midnapore, ...	8,260	1,914,060	Dinagepore, . . .	5,920	2,341,420
Cuttack, ...	9,040	1,984,620	Rungpore, . . .	7,856	1,310,350
Jessore, ...	5,180	1,183,590	Rajeshahye, . . .	3,950	4,087,155
Nuddea, ...	3,105	1,187,160	Bheerbhoom, . .	3,870	1,267,065
Hooghly, ...	2,260	1,239,150	Moorshedabad, . .	1,870	762,690
24 Pergunnahs, . .	3,610	599,595			
Suburbs of Calcutta, .	1,105	360,360	DACCA.		
Calcutta City, . .	7	265,000	Dacca, ...	1,870	512,385
			Dacca Jelapore, . .	2,585	588,375
PATNA.			Tipperah, . . .	6,830	1,372,260
Ramghur, ...	22,130	2,252,985	Chittagong, . . .	2,980	700,800
Behar, ...	5,235	1,340,610	Backergringe, . .	2,780	686,640
Tirhoot, ...	7,732	1,697,700	Sylhet, ...	3,530	1,083,720
Sarun, ...	5,700	1,464,075	Mymensing, . . .	6,998	1,454,670
Shahabad, ...	4,650	908,850			
Patna, ...	667	255,705	Total, . . .	153,802	37,503,265

BENGAL PRESIDENCY,—*Upper, or Western Provinces.*

BENARES.			BAREILLY.		
Allahabad, ...	2,650		Agra, ...	3,500	
Futtehpore, . . .	1,780		Allyhur, ...	3,400	
Bundelcund, N. and S.	4,680		Furruckabad, . . .	1,850	
Benares, ...	350		Bareilly, ...	6,900	
Ghazeepore, . . .	2,850		Shahjehanpore, . .	1,420	
Goruckpore, ...	9,520		Seharanpore, . .	3,800	
Juanpore, ...	1,820		Meerut, ...	2,250	
Azimghur, ...	2,240		Cawnpore, . . .	2,650	
Mizzapore, ...	3,650		Etawah, ...	3,450	
			Moradabad, . . .	5,800	
			Bolundshuhur, . .	1,950	
			Total, . . .	66,510	32,206,806

Extent of Territories immediately under the Bengal Government, of the Population of which there are no Returns.

	Square Miles.
Ceded districts on the Nerbudda, ...	29,800
Districts ceded by the rajah of Berar, in 1826, ...	55,900
Total, ...	85,700
Total Territory under Bengal Presidency, . . .	306,012

FORT ST GEORGE PRESIDENCY.

District.	Extent in English Sq. miles.	Population.	District.	Extent in English Sq. miles.	Population.
Ganjam, ...	6,400	332,015	Trichinopoly, . .	3,000	
Vizagapatam, including Chincacole,	15,300	772,570	Madura, Shevagunga, including Dindigul and Ramnad,	10,700	181,292 601,293 186,903
Rajahmundry, . .	6,050	738,308	Tinnevelly, . . .	5,700	564,957
Masulipatam, . . .	5,000	529 849	Coimbatore, . . .	8,280	638,199
Guntoor, ...	4,960	454,754	Canara, ...	7.720	657,594
Vellore, ...	7,930	439,467	Malabar, ...	6,060	907,575
Bellary, ...	12,980	927,857	Seringapatam, Fort and Island,	3	31,612
Cuddapah, ...	12,970	1,094,460	Madras, Town and District	30	462,051
Chingleput, . . .	3,020	363.129			
Arcot, N. Divis. Do. S. Divis.	13,620	892,292 455,020			
Salem, ...	8,200	1,075,985			
Tanjore, ...	4,000	901,353	Total, . . .	141,923½	13,508,535

BOMBAY PRESIDENCY.

Bombay Island, including Colabah and Old Woman's Island,	18¼	162,570	Haira collectorate, .	1,850	484,735
			S. Concan collectorate,	6,770	640,857
			Poona do. Ahmednugger do.	20,870	484,717 650,000
Surah, comprehending the city and suburbs, the town of Randier, and the 12 Pergunnahs,	1,350	454,431	Kandeish do. .	12,130	417,976
			Dharwah do. S. Jageers, Sattara,	9,950	684,193 778,183 736,284
Broach collectorate, .	1,600	229,527	Total, . . .	59,438¼	6,251,516
Ahmedabad collectorate,	4,600	428,073			

PRESIDENCY OF PRINCE OF WALES' ISLAND, SINGAPORE, AND MALACCA.

Prince of Wales' Island, Pulo Seraja. Pulo Reman, and Province Wellesley, on the Malayan Coast,	180	57,411	Singapore Island, .	337	15,834
			Malacca Town and District,	800	33,806
			Total, . . .	1,317	107,051

Abstract Statement of the Extent and Population of British India and of the Allied or Protected States.

	Sq. Miles.	Population.
Bengal Presidency:		
Districts, the Population of which is given, ...	220,312	69,710,071
Fort St George Presidency, ...	141,023½	13,508,535
Bombay Presidency:		
Districts, the Population of which is given, ...	59,438¼	6,251,546
Prince of Wales' Island, Singapore, and Malacca, ...	1,317	107,051
Total, ...	422,990¾	89,577,206
Territories under Bengal and Bombay, the Population of which is not given,	91,200	
Total British Territory, ...	514,190¾	
Allied or Protected States, ...	614,610	
Grand Total, ...	1,128,800¾	

No. IV.—POPULATION RETURNS.—England

COUNTIES OF	1801.	Increase per Cent.	1811.	Increase per Cent.	1821.	Increase per Cent.	1831.	
Bedford . . .	63,393	11	70,213	19	83,716	14	95,383	
Berks	109,215	8	118,277	11	131,977	10	145,289	
Buckingham . .	107,444	9	117,650	11	131,068	9	146,529	
Cambridge . . .	89,346	13	101,109	20	121,909	18	143,955	
Chester . . .	191,751	18	227,031	19	270,098	24	334,410	
Cornwall . . .	188,269	15	216,667	19	257,447	17	302,440	
Cumberland . .	117.230	11	133,744	17	156.124	10	169,681	
Derby	161,142	15	185,487	15	213,333	11	237,170	
Devon	343,001	12	383,308	15	439,040	13	494,168	
Dorset	115 319	8	124,693	16	144,499	10	159,252	
Durham . . .	160,361	11	177,625	17	207,673	22	253,827	
Essex	226,437	11	252,473	15	289,424	10	317,233	
Gloucester . .	250,809	12	285,514	18	335,843	15	386,904	
Hereford . . .	89,191	5	94,073	10	103,243	7	110 976	
Hertford . . .	97,577	14	111,654	16	129,714	10	143,341	
Huntingdon . .	37,568	12	42,208	15	48,771	9	53,149	
Kent	307,624	21	373,095	14	426,016	12	479,155	
Lancaster . . .	672,731	23	828 309	27	1,052,859	27	1,336,854	
Leicester . . .	130,081	16	150,419	16	174,571	13	197,003	
Lincoln	208,557	14	237,891	19	283,058	12	317,244	
Middlesex . .	818,129	17	953,276	20	1,144,531	19	1,358,541	
Monmouth . .	45,582	36	62,127	15	71,833	36	98,130	
Norfolk . . .	273,371	7	291,999	18	344,368	13	390,054	
Northampton . .	131.757	7	141,353	15	162,483	10	179.276	
Northumberland	157,101	9	172,161	15	198,965	12	222,912	
Nottingham . .	140,350	16	162,900	15	186.873	20	225,320	
Oxford . . .	109,620	9	119 191	15	136,971	11	151,726	
Rutland . . .	16.356	—	16,380	13	18,487	5	19,385	
Salop	167,639	16	194,298	6	206,153	8	222,503	
Somerset . . .	273,750	12	303,180	17	355,314	13	403,908	
Southampton . .	219,656	12	245,080	15½	283,298	11	314,313	
Stafford . . .	239,153	21	295,153	17	345 895	19	410,485	
Suffolk . . .	210,431	11	234,211	15	270,542	9	296,304	
Surrey	269,043	20	323,851	23	398,658	22	486,326	
Sussex	159 311	19	190,083	22	233,019	17	272 328	
Warwick . . .	208,190	10	228 735	20	274,392	23	336,988	
Westmorland .	41,617	10	45,922	12	51,359	7	55,041	
Wilts	185,107	5	193,828	15	222,157	8	239,181	
Worcester . .	139,333	15	160,546	15	184,424	15	211,356	
York (E. Riding)	110,992	16	134,437	14	154,010	10	168,646	1,371,296
City of York and Ainstey	24,393	12	27,304	12	30,451	17	35,362	
York (N. Riding)	158,225	7	169,391	11	187,452	2	190.873	
York (W. Riding)	565 282	16	655,042	22	801,274	22	976,415	
	8,331,434	14½	9,551,888	17½	11,261,437	16	13,089,338	

WALES.

COUNTIES OF	1801.	Increase per Cent.	1811.	Increase per Cent.	1821.	Increase per Cent.	1831.
Anglesey	33,806	10	37,045	21	45,063	7	48,325
Brecon	31,633	19	37,735	16	43,603	10	47,763
Cardigan	42,956	17	50,260	15	57,781	10	64,780
Carmarthen	67,317	15	77,217	17	90,239	12	100,655
Carnarvon	41,521	19	49,336	17	57,958	15	65 753
Denbigh	60,352	6	64,240	19	76,511	8	83,167
Flint	39,622	17	46,518	15	53,78[illegible]	11	60,012
Glamorgan	71,525	1[illegible]	85,067	19	101,737	24	126,612
Merioneth	27,506	1	30,921	1[illegible]	34,382	[illegible]	35,609
Montgomery	47,978	8	51,931	15	59,899	9	66,485
Pembroke	56,280	7	60,615	22	74,009	9	81,424
Radnor	19,050	9	20,900	7	22,459	9	24,651
	541,546	13	611,788	17	717,438	12	805 236

SCOTLAND.

COUNTIES OF	1801	Increase per Cent.	1811.	Increase per Cent.	1821.	Increase per Cent.	1831.
Aberdeen	123,082	10	135,075	15	155,387	14	177,651
Argyle	71,859	19	85,585	14	97,316	4	101,425
Ayr	84,306	23	103,954	22	127,299	14	145,055
Banff	35,807	2	36,668	19	43,561	12	48,604
Berwick	30,621	1	30,779	8	33,385	2	34 048
Bute	11,791	2	12,033	15	13,797	3	14 151
Caithness	22,609	4	23,419	29	30,238	14	34,529
Clackmannan	10,858	11	12 010	10	13,263	11	14,729
Dumbarton	20,710	17	24,189	13	27,317	22	33,211
Dumfries	54,597	15	62,960	13	70,878	1	73,770
Edinburgh	122,954	21	148,607	29	191,514	15	219,592
Elgin	26,705	5	28,108	11	31,162	10	34,231
Fife	93,743	8	101,272	13	114,556	12	128,839
Forfar	99,127	8	107,264	6	113,430	23	139,606
Haddington	29,986	4	31,164	13	35,127	3	36,145
Inverness	74,292	5	78,336	15	90,157	5	94,797
Kincardine	26,349	4	27,439	6	29,118	8	31,431
Kinross	6,725	8	7,245	7	7,762	17	9,072
Kirkcudbright	29,211	15	33,684	15	38,903	4	40,590
Lanark	146,699	31	191,752	27	244,387	30	316,819
Linlithgow	17,844	9	19,451	17	22,685	3	23,291
Nairn	8,257	—	8,251	9	9,006	4	9,354
Orkney and Shetland	46,824	—	46,153	15	53,124	10	58,239
Peebles	8,735	14	9,935	1	10,046	5	10,578
Perth	126,366	7	135,093	3	139,050	3	142,894
Renfrew	78,056	19	92,596	21	112,175	19	133,443
Ross and Cromarty	55,343	10	68 853	13	68,828	9	74,820
Roxburgh	33 682	11	37,230	10	40,892	7	43,663
Selkirk	5,070	16	5,889	13	6,637	2	6,833
Stirling	50,825	14	58,174	12	65,376	11	72,621
Sutherland	23,117	2	23,629	—	23,840	7	25,518
Wigtown	22,918	17	26,891	23	33,240	9	36,258
	1,599,068	14	1,805,688	16	2,093,456	13	2,365,807

SUMMARY OF GREAT BRITAIN.

England	8,331,434	14⅔	9,551,888	17⅞	11,261,437	16	13,089,338
Wales	541,546	13	611,788	17	717,438	12	805,236
Scotland	1,599,068	14	1,805,688	16	2,093,456	13	2 365,807
Army, Navy, &c. . .	470,598	—	640,500	—	319,300	—	277,017
	10,912,616	15¼	12,609,864	1[illegible]	14,391,631	15	16,537,598

V.—TRADE OF THE UNITED KINGDOM WITH FRANCE.

An Account of the Amount in official and real value, of all British Exports to France in each year since 1814; distinguishing those of British from Colonial Produce: also, an Abstract of the Amount, in official value, of all Imports from France in each year, as far as the same can be made up during the time, fractions omitted.

Years.	Official Value of Imports into the United Kingdom.	Official Value of Exports from the United Kingdom. British and Irish Produce and Manufactures.	Official Value of Exports from the United Kingdom. Foreign and Colonial Merchandise.	Official Value of Exports from the United Kingdom. Total Exports.	Declared Value of British and Irish Produce and Manufactures exported from the United Kingdom.
	£	£	£	£	£
1814	740,226	377,799	1,867,913	2,215,713	582,762
1815	754,372	214,823	1,228,856	1,443,680	298,291
1816	417,782	321,070	1,313,151	1,631,222	407,699
1817	*527,865*	*596,753*	1,054,261	1,651,014	1,003,186
1818	*1,162,423*	*318,850*	877,912	*1,196,763*	369,503
1819	642,011	248,078	734,779	982,857	299,493
1820	775,132	334,086	829,814	1,163,901	390,744
1821	865,616	382,404	1,037,100	1,419,504	430,265
1822	878,272	316,810	839,150	1,185 961	437,009
1823	1,115,800	241 837	743,574	985,412	319,636
1824	1,556,733	260,498	864,500	1,124,999	338,635
1825	1,835,984	279,212	892,402	1,171,615	360,709
1826	1,247,426	426,819	656,124	1,082,944	488,438
1827	2,625,747	416,726	133 503	550,229	446,951
1828	3,178,825	448,915	195,497	644,442	498,937
1829	2,086,993	509,921	337,896	847,817	491,388
1830	2,328,483	486,284	181,065	667,349	475,884

EUROPE IN GENERAL.

The following Tables are valuable contributions to the General Statistics of Europe.:—

No. I. A Table, showing the Extent, Population, Revenue, and Debt of the Principal States of Europe for 1829, according to Professor Malchus, late Minister of Finance to the King of Wurtemberg.

	Geographical square miles.	Population.	Revenue.	Debt.
Russian Empire - - - - - -	6,002,774	60,367,000	£17,420,000	£35,550,000
Austria - - - - - - - -	194,448	32,838,900	13,910,000	78,100,000
France (without its Colonies) -	161,376	32,500,000	39,020,000	194,400,000
Great Br. (without its Colonies)	88,560	22,129,035	51,500,000	819,600,000
Prussia - - - - - - - -	80,240	12,552,278	8,119,000	29,701,000
Netherlands - - - - - - -	19,136	6,116,685	6,590,000	118,500,000
Sweden - - - - - - - -	126,960	2,900,000	2,170,000	
Norway - - - - - - - - -	92,768	1,050,132	351,000	252,100
Denmark - - - - - - - -	16,304	1,937,014	1,238,000	3,729,000
Poland - - - - - - - - -	36,668	4,035,700	1,206,000	5,740,000
Spain - - - - - - - - -	135,136	13,909,000	6,420,000	70,000,000
Portugal - - - - - - - -	27,552	5,013,950	2,110,000	5,649,000
Two Sicilies - - - - - - -	31,592	7,414,717	3,521,000	18,974,000
Sardinia - - - - - - - -	21,840	4,333,966	2,750,000	4,584,000
States of the Church - - -	12,976	2,483,940	1,238,000	17,142,000
Grand Duchy of Tuscany - -	6,320	1,300,000	623,400	1,884,000
Switzerland - - - - - - - -	11,636	2,037,000	440,000	
Ottoman Empire in Europe -	160,000	9,476,000	2,475,000	3,667,000
Bavaria - - - - - - - -	22,160	4,037,017	2,973,000	11,311,000
Saxony - - - - - - - - -	5,568	1,350,000	1,009,000	3,300,000
Hanover - - - - - - - -	11,620	1,537,500	990,000	2,384,000
Wurtemberg - - - - - - - -	5,744	1,535,400	851,950	2,505,000
Baden - - - - - - - - - -	4,384	1,141,727	901,290	1,670,000
Hesse (Darmstadt) - - - - -	2,960	697,901	537,260	1,184,900
Hesse (Electorate) - - - -	3,328	718,000	476,000	220,000

No. II. A View of the Public Debt and Annual Expenses of the Principal Powers of Europe, compared with their respective Population.

(*From the Budget of the Receipts and Expenditure of France for the Year* 1830.)

	Interest of Public Debt; in francs.	Entire Expenses; in francs.	Population.	Expense to each person
France - - - - - - - -	210,000,000	980,000,000	32,000,000	31 francs.
England - - - - - - - -	610,000,000	1,200,000,000	21,000,000	57 do.
Austria - - - - - - - -	67,000,000	350,000,000	32,000,000	11 do.
Prussia - - - - - - - -	26,000,000	190,000,000	13,000,000	14 do.
Netherlands - - - - - -	40,000,000	166,000,000	6,000,000	27 do.
Bavaria - - - - - - - -	7,000,000	62,000,000	4,000,000	15 do.
Wurtemberg - - - - - -	700,000	20,000,000	1,500,000	13 do.
Pays de Vaud - - - - - -		1,700,000	160,000	10 do.
United States - - - - - -	13,000,000	138,000,000	13,000,000	11 do.

AFRICA.

On turning to this quarter our attention is first arrested by—

THE DISCOVERY OF THE MOUTHS OF THE NIGER.

THIS event, geographically so important, has at length been accomplished, and will open up a new route into the interior of Africa,—a region nearly as unknown as that of New Holland. Where the Niger rose, was a problem as difficult of solution, as that of the source of the Nile, till solved by two illustrious but unfortunate Scotsmen, Park, and Laing, who ventured their lives, and lost them, in the arduous task of African discovery. But though the source of the Niger was thus determined, whilst that of the Nile remained unknown, it was still a problem equally difficult of solution,—what was the direction, and where the termination of its course? The successive labours of subsequent travellers had thrown no light on the subject, and the deficiency of information was attempted to be supplied by the aid of ingenious conjecture. One supposed it to join the Nile of Egypt. Another conducted it to the lake of Wangara, which he made its termination. Whilst another, in his turn, improved as he thought on the idea, by conducting it through that extensive swamp, to the Bahr-al-Ghazelle, or river of antelopes, (the Ghir of Ptolemy), and thence through the sands of Bilmah, to the Mediterranean. A fourth conjecture conducted it to the Atlantic, under the name of Zaire; whilst a fifth, started by Richaud, in 1803, and supported with great ingenuity and research, by Mr M'Queen, conducted it to the Bight of Benin.

This last conjecture is now verified, and our unfortunate countryman, Mr Park, who had traversed the Niger as far down as Boussa, within 6 degrees of the Atlantic, was in the fair road of realising all his hopes, when they were all frustrated by his unhappy fate in the rapids opposite Boussa. The recent discoveries of Captain Clapperton, who travelled by land from Badagray, a sea-port of Dahomey, to Hio, and Boussa, and Sockatoo, clearly proved that the Niger ran in a S.E. direction to the Atlantic; and whilst Clapperton was at Hio, or Katunga, the capital of Youriba, he learned that the Niger ran two days' journey to the East, and that, consequently, its course to the Bight of Benin was no longer doubtful. This was in February, 1826, but his subsequent death, in August, 1827, at Sockatoo, prevented for a time all further progress. So much information was now gained upon this subject, that nothing more was required to settle it beyond all dispute, than to sail down the river from Boussa—the point which Park had reached—and thus ascertain the further line of direction of its course, and where it entered the sea. The two brothers, Landers—one of whom had been Captain Clapperton's servant, and accompanied him in that capacity to Sockatoo, and had there performed the last sad duties to his deceased master—were accordingly despatched by the secretary of state, first to Cape-Coast-Castle, and thence to Badagray, in January, 1830. Agreeably to their orders, they were to take the former land-route from Badagray to Boussa, and thence to Yaoori, *and there to embark on the stream, and not to quit it till they reached its termination.*

On the 31st of March, the two brothers commenced their over-land journey; they reached Kiama on the 28th of May, and Boussa on the

17th of June. This city does not stand upon an island, as described by Clapperton; but on the right bank of the river, on the mainland. The Niger here is of very reduced breadth, not exceeding a stone-throw across. Black rocks rise abruptly from the stream in its centre, and its surface is agitated by whirlpools. This rapid is the place where Mr Park and his associates perished; and "the rock on which I sat," says one of the Landers, "overlooks the fatal spot." The king of Boussa afterwards showed to the travellers one of Mr Park's books, which is described as a nautical book containing tables of logarithms. On the 27th of June, they arrived by water at Yaoori; but the navigation, it being the season when the stream is low, was very difficult, from rapids and shallows, and from the spreading of the stream here and there into branches, full of dangerous rocks, sand-banks, and low islands covered with tall rank grass. One of these channels, six miles N. of Boussa, was a mile wide; but so shallow, except in one place where it was very narrow, that a child might easily wade it. The Landers were told, that between these two places is the most difficult part of the whole navigation, there being no rocks nor sand banks, either above Yaoori, or below Boussa. Yaoori is four days' sail nearly due N. of Boussa, and the river in its natural bed, when uninterrupted by rocks, runs at this season (June) from one to two miles an hour. In the wet season, after the *malca*, or fourteen incessant rainy days, has set in, when all the rivers which are nearly dry during the remainder of the year, pour their redundant waters into the *Great Father of Waters*, as the Quorra is emphatically styled, canoes pass between Nyffie, Yaoori, Boussa, and Funda. At this season also, the river, by the depth and velocity of its current, sweeps off the rank grass which springs up annually on its borders. Every rock and every low island are then completely covered, and may be easily passed over in canoes, without any danger. While thus flooded, large trading-boats may go down the stream from Tombuctoo to Yaoori; but from the strength of the current, to return up the stream is impossible, and the boatmen leave their vessels at Yaoori, therefore, and return to Tombuctoo by land. The journey from Yaoori to Sockatoo occupies five whole days, or a direct distance of 100 British miles. The course of the Niger, or Quorra, from Tombuctoo to Yaoori, seems to be nearly S.E.; and hence, instead of running E. of Tombuctoo, as far as the western extremity of the supposed swamp of Wangara, in 15° E. long. of Greenwich, and about as many E. of Tombuctoo, if Walckenaer's position of that place be correct, it goes S. and S.E. to Yaoori, in 6° 20′ E. long. and 11° 20′ N. lat. If the lake of Tchad, discovered by Messrs Denham and Clapperton, be the same with the lake of Wangara—as is very probably the case—then it is still a degree farther east of the meridians of Greenwich and Tombuctoo, and the basin of that lake, and its two principal feeders, the Yeou and the Shary, is separated wholly from that of the Niger, on the S.W. by a chain of mountains and elevated plateaus: so that there neither is, nor can be, a communication between it and the Niger by means of these two rivers, which are not branches of the Niger but totally distinct rivers.

Yaoori is a large flourishing state, bounded by Houssa on the E.; by Cubbie on the N.; Borgoo on the W.; and Nouffie on the S. The government is an hereditary despotism; but the former sultaun was deposed for his tyranny and bad conduct, and the present ruler (1830) has reigned upwards of 39 years, and has hitherto maintained his ground against the ever restless Fellatahs. The city is of great extent and very populous, surrounded by a high and strong wall of clay, and may be between 20 and 30 miles in circuit, having eight gates well-fortified, after the manner of the country. The people are industrious both in manufactures, and agriculture; yet, notwithstanding, they are very poorly clad, have little money, and are perpetually complaining of the badness of the times. In the wet season, Yaoori is a complete swamp, and after the malca has set in, it is literally covered with water. A little to the N., the Quorra is joined by the Cubbie from the N.E; at this junction the Landers embarked on their return, and found the stream running from two to three miles an hour, on the 2d of August, and in full flood, and most of the rocks and shoals encountered in the dry season, now covered and invisible. The banks of the river and its islands were in many places covered with vast crops of corn, growing to ten or twelve feet in height. On the 20th of September, they left Boussa, and proceeded down the river at noon, and by 2 o'clock P.M., passed the boundaries of Boussa and those of Nyffie. During this part of the voyage, at a small island called *Metalie*, the river ran three or four miles an hour, and its bed was full of rocks, some of which, shooting up within a few inches of the surface, caused a loud rushing noise in the water; and with considerable difficulty they crossed two reefs, which in the dry season must be highly perilous. At night they stopped at a large island called *Palashie*, one mile broad by several miles long. Opposite a city called *Layaba*, the river was found very narrow and deep; this city has an extensive population of Nyffie people. After leaving this place, they ran 12 or 14 miles down the stream; the Quorra during this whole distance rolling grandly along, a noble river, neither obstructed by island nor deformed by rocks and stones. Its width varied from one to three miles; the country on either side was very flat, and a few mean dirty looking villages were scattered on the banks. At *Madjie* island, a large river called *Moussa* enters from the west, forming the southern boundary of Wowou. Above this, the Landers met several very large canoes, having a hut in the middle, which contained merchants and their whole families. At this island, the Quorra, which had hitherto run due S. *from Yaoori and Boussa, takes a turn to the east by the side of a range of hills, and afterwards flows a little to the east of south, for a number* of miles; and in the middle of the stream is an elevated rocky island 300 feet high, called *Mount Kisey* by the natives; it is very steep, and is an object of superstitious veneration amongst the natives. At *Rabba*, the Quorra begins to run decidedly to the S.E.; Rabba is a very large and populous city, built on the slop of a gentle hill almost wholly destitute of trees; and two miles above it is *Zigozhee* island, so low that the houses and trees seemed springing out of the water. Rabba may, for its commerce, be considered as the emporium of the whole country, as a variety of articles, both of home and foreign manufacture, are there daily sold, and it is besides well supplied with slaves of both sexes, which have for the most part been captured in war by the Fellatahs. The price of a stout well-made male slave is £8, and of a young female £10. Slaves are sometimes purchased at Rabba by people inhabiting the country situated a good way down the Quorra, and from thence they are delivered from hand to hand, till they at length reach the sea. Ivory is also sold here, and large tusks may be had for 1000 cowries or 2*s*. each, and sometimes cheaper. The Landers had eleven elephants' tusks presented to them by the kings of Wouwou and Boussa, but were unable to dispose of them at Rabba, as no strangers were then in that city. Rabba is two days' journey E. of

Katunga, the capital of Youriba: from Rabba all the way down to Kacunday, the direction of its course is S.E., and Kacunday may be regarded as the most S. eastern position on its bank, in 8° 30′ E. long. of Greenwich, and 8° 30′ N. lat. Below Rabba, the Quorra spreads out to a breadth of five miles, and its banks are covered with large thick morasses and bogs; so the Landers found it impossible to get a landing-place to refresh themselves, as the villages all lay behind these swamps, through which it was impossible to penetrate. The river seems to flow through a mountainous region, some distance below Rabba, as they passed a number of picturesque and beautiful mountains, a few miles inland from the left bank, and several others still more romantic and interesting were seen in the same direction, but very elevated, and so distant, that they could hardly be distinguished from faint blue clouds; and at the Coodoonia river from the N.E., the land on both sides of the Quorra is very elevated, so far as can be seen.

The *Coodoonia* is a very large stream, rising in the mountains of Zegzeg, and was crossed by Richard Lander, in his former return journey from Sockatoo. Beyond the mouth of this river is the S.E. boundary of Nyffie; and below, the city of *Egga* on this boundary. There are neither kings nor chiefs here, each city having its own ruler. Egga is on the right bank of the river, and near it on the opposite bank is a market-town of considerable size. The population of Egga is prodigious, and the city itself of immense extent; the soil in its immediate vicinity is uncommonly productive, being a dark heavy mould, and the necessaries of life are abundant and cheap, but the inhabitants eat little animal food, living chiefly on fish, which are abundant in the river. Hyænas are said to be very numerous in the woods, and so bold and rapacious as lately to have carried off nearly the whole of the sheep in the town. The commerce of this place is great, as was evinced by the immense number of large canoes which lay off the town filled with trading commodities, and all kinds of merchandise common to the country. Benin and Portuguese clothes are worn at Egga by many of the inhabitants, so that some sort *of communication is kept up with the sea-coast. The people are very speculative and enterprising, and numbers of them employ their whole* time in trading up and down the river, and live entirely on board, covering their canoes with a shed which answers every purpose for which it is intended. Egga, like many towns on the river, is often inundated by the periodical swell of the Quorra; and when the Landers stopped there on the 20th of October, a large part of the city was overflowed. From Kacunday—mentioned above, and which they reached two days' sail below Egga—the Quorra runs almost due S. to its junction with the *Tshadda*, a large stream from the east. The banks of the river are well inhabited on both sides, with much cultivation from Egga to Kacunday; but below this, the river enters the mountains, which seem to be those of the Kong range, running towards the S.E. all the way, till they join the Alla Sierra, or Cameroon mountains, opposite the island of Fernando Po. After the confluence of the Quorra and Tshadda, the united stream varies from two to five and six miles wide in the time of the periodical inundation, and commences a S.W. course through the range; it is free of islands and morasses, and has high well-wooded banks. At *Bocqua*, a day's sail below the confluence, and on the western bank, some iron hoops and staves of casks were found; opposite, on the eastern bank, is a path leading three days' journey to the city of Funda on the Tshadda. A day's sail below Bocqua is the city of *Atta*, close to the river bank in an elevated situation, on a green sward: its appearance was highly striking and beautiful; and it was surrounded with fine trees and shrubs. Below this, the margin of the river becomes more thickly wooded than ever, and for more than 30 miles, neither villages nor houses are seen, not even a single hut. The whole of this distance, the canoe passed smoothly alongst the river; every thing was silent and solitary; "no sound could be distinguished save our own voices," say the Landers, "and the splashing of the paddles with their echoes." The song of birds was not heard, nor could any animal whatever be seen; the banks seemed entirely deserted, and the Quorra to be slumbering in its own grandeur. At noon they cleared the end of the high hills, which had commenced below Bocqua, but which now changed their direction S.S.E., whilst that of the river was nearly S.W., the breadth varying from three to five miles.

At *Abbazacca*, 45 miles below the confluence of the Quorra and Tshadda, and the first town to the S.W. of the mountains, on the left bank, an English bar of iron was seen; and for the first time in coming down the river, the cocoa-tree was beheld, and the mellow whistling of the grey parrot heard. The chief of this place wishing to know whence the Landers had come, was much astonished on hearing that they had come from Yaoori, a great city on the banks of the river, never having heard before the name of such a place. Below this place, villages become numerous on both sides, appearing every three or four miles, but little cultivation was visible. At *Dammuggoo*, the natives have muskets of English manufacture; the king had six small swivels. The natives are expert in the use of fire-arms, and they shoot buffaloes, which, however, are not numerous. The Quorra was now commencing to decrease, having fallen two feet in as many days; here were seen a man dressed in a soldier's jacket, and others partially clothed in European apparel, all of whom had picked up a smattering of English from the Liverpool palm oil vessels in the Bonney river, and Bonney itself was said to be four or five days' journey from hence. A great number of the Dammuggoo people ascend the river to Bocqua, carrying with them gunpowder, muskets, soap, Manchester cottons, and other European articles; and great quantities of rum, or rather rum and water, for not above one-third is genuine spirit, and even that of the worst quality. These are exchanged for ivory and slaves, which are again sold to the European traders. At *Kirree*, the Quorra for the first time sends off a branch, so that Kirree may be said to be the apex or head of the delta; this uppermost branch goes off to the S.W. to Benin, and is the Rio Formosa, or most western mouth of the Niger. The main stream runs S.S.W. to *Eboe*, three days' sail farther down; but, whilst prosecuting their voyage below Kirree, the Landers' canoe was attacked and captured by the *Hibboos*, a fierce people on the banks;—these people had large canoes, some of them having 40 paddles, and carrying 60 men. They were carried back to Kirree, 40 miles up, and were fortunately redeemed by the king of Brasse, who then happened to be there buying slaves, by giving the price of six slaves for each. In consequence of this, one of the Landers lost his journal and a mariner's compass; the only instrument they had to ascertain their bearing was also lost. Above Eboe the river expands into a lake, from which it issues in three branches, running to the S.W., S., and S.E., all three large navigable streams. The first branch seems to be the *Rio dos Forcados*, or Warree river, which enters the sea S.E. of the Formosa branch; but whether the Rio dos Escardos, an intervening mouth, is an arm of the Formosa, or Warree branch, we cannot determine. The middle or S. branch, is the *Rio Nun* or main river, which enters the sea at Cape Formosa, after forming a small delta at its entrance. The S.E. branch goes to Old Calabar, and forms the branches of the *Old Calabar* and *Rio del Rey* rivers. The middle branch, or Nun, is not above two miles broad at its issue from the lake above Eboe, and it was down this branch the Landers came; in its further course down, the main branch or Nun river, sends off four other branches, two to the W. and two to the E., which seemingly correspond to the Bonney and New Calabar rivers. The river consequently grows narrower and shallower as it approaches the sea. The Landers, after two days' sail from Kirree, finally landed on the 15th November, at Brasse town, on a small branch of the Nun river, up which they ascended; the tide flows up about 80 miles into the interior. A little above Kirree where the delta commences, at 180 miles or 200 B. miles in direct distance from the mouth of the Nun, or main branch by the course of the stream, a change of the climate begins to be felt—the nights being very cold, with very heavy dews, with a considerable quantity of dense vapour covering the face of the country in the morning. Below Kirree, the river is not so serpentine as above it; the banks are so low and regular, that not even a simple rising can anywhere be discovered, and gradually assume a sameness little different from that which prevails on many parts of the sea coast in the bight of Benin. At Kirree the mangrove is seen, for the first time, coming down the river, interspersed amongst the trees of the forest. Near the mouth, the Nun is not above half a mile wide in the broadest part, and the narrowest about 300 yards across. Eboe, where the second delta commences, is about 120 geographical miles above the mouth in direct distance.

From Boussa, where the Landers began their voyage down the river, they occupied 56 days in sailing down to Brasse town; but from this, 7 days must be deducted for their misfortune near Kirree, so that 49 were in whole employed; and as the distance on the map of their voyage gives 490 geographical miles between Boussa and the mouth of the Nun, without including windings, the daily rate of sailing in a canoe worked by paddles, was ten such miles. The direct distance from Boussa to Yaoori in the same map is 60 geographical miles by the course of the river; so that we have 540 geographical miles between the mouth of the Nun and Yaoori, the most northern term of their expedition. But as the mouth of the Nun is nearly due S. of Yaoori, the direct overland distance is only 410 geographical miles, or 130 less than by the river. We cannot, unfortunately, ascertain the direct distance between Tombuctoo and Yaoori, as the position of the former is not yet satisfactorly adjusted, not even by Caille, who visited, or *pretends to have seen* Tombuctoo, but gives not the smallest information as to the course of the Niger beyond that point,—leaves it just as he found it,—and tells us from his host Side Abdallahi, that there is no traffic or water-communication with the country of Houssa, because the navigation of the river ceases at Kabra, and yet, as we have above seen, loaded boats come from Tombuctoo to Yaoori. We cannot allow more than 400 geographical miles between these two positions in direct distance, and 500 more from Tombuctoo to the source of the stream at Mount Loma; thus making its whole course 1440 geographical or 1660 British miles, not including sinuosities; a length of course great indeed, but by no means extraordinary, being inferior in this respect to the Nile of Egypt, though far excelling it in volume of water,—a circumstance easy of solution, for, excepting the Tacazze, the Nile receives not a single stream below the junction of its eastern and western branches, and its course through the sterile desert of Nubia, where its waters are absorbed by the sands, and evaporated by the sun. The course of the Niger, on the contrary, is through a very different region, and wholly within the tropics, so that it cannot fail of an abundant and increasing supply of water during its whole progress to the sea. Its delta is of large extent, comprehending the whole line of sea, from the mouth of the Rio Formosa, or river of Benin, S. E. to Cape Nun, and from that point, N. E. to the mouth of the Rio del Rey, which is probably a branch of the Old Calabar river, or the whole space between the bights of Benin, and Biafra;—an extent of 250 geographical miles, and containing an area of thrice the dimensions of the Egyptian delta, and considerably larger than that of the Ganges; the navigable branches are likewise larger, more numerous, and more easily permeable than those of the celebrated Indian river. The discovery of the mouths of the far-famed and long sought Niger, is an event of far more importance, in every point in which it can be viewed, than that of Tombuctoo, of which our French rivals have boasted so much. For, except the mere fact of the discovery of the region between Silla and Tombuctoo by Caille, we have got nothing more. Park had previously advanced as far as Silla in his first adventure; and Major Laing had already discovered the source of the Niger, and traced on the map the first 25 leagues of its course to the N. All that was further required, was to fill up the gap to Bammakoo where Park left it; now the first point where Caille found the Joliba was Couroussa; and Jomard, in his map of Caille's itinerary, has delineated its course from the source thus far within 40 leagues of its origin. We have no further word of the Joliba till he found it again at Jenne, and Jomard fills up the curve of the river from Couroussa to Jenne, which is in reality lengthening Major Laing's researches as far as this point; placing Boure, (the Boori of Park,) Sego, and Sousanding on this arbitrary course of the river, which he farther supposes Mungo Park to have traversed. Caille, in his journey to Time, progressed round the whole of this space, and yet obtained no additional information, and the greatest errors may still exist in laying down the true direction which he took on leaving this latter town. The additions of course made to geography in this part of the journey are not great, and his account of Tombuctoo has totally disappointed expectation, our knowledge being still confined to that solitary fact. The French have made a mighty boast about this discovery, telling us of the millions which our country had spent in attempting unsuccessfully what an unprotected and unassisted Frenchman had accomplished: but it is not strictly true that Caille was the first in the list of about forty travellers who had the honour of accomplishing that in which they all failed; for Adams and Riley *must be excepted, who both saw it,* and Park must undoubtedly have seen *it, on his way down the Niger to Boussa*; his unfortunate death at Boussa, *though it has indeed deprived his country of the information he obtained* in his last journey, is no impeachment of the fact that he reached Tombuctoo. That Major Laing reached Tombuctoo in August, 1826, and remained there for some time, is unquestionable, as appears from several letters, and one in particular, dated Tombuctoo, 21st September, 1826. His subsequent unhappy, and in some respects mysterious fate, does not deprive him of the just right of precedence of Caille in having reached that city; and had not his papers been either destroyed or shamefully withheld, we would have got much more geographical information respecting that part of interior Africa, than has been communicated in the ponderously got up volumes of Caille. "I have been busily employed," says our unfortunate countryman, "*searching the records of the town, which are abundant,* and in acquiring information of every kind, nor is it with any common degree of satisfaction that I find my perseverance has been amply rewarded." He says, moreover, that Tombuctoo *had completely met his expectations in every respect,* except as to size, for it did not exceed four miles in circumference: on the contrary, Caille says, that it completely disappointed his expectations, having had a totally different idea of the grandeur and wealth of that place, which presented, at first sight, nothing but a mass of ill-looking houses built of earth. According to him Tombuctoo stands in a desert of quicksands of a yellowish white colour. We have also an account perfectly at variance with his, from a Tartar named Wargu, who, in the capacity of a merchant, traversed the African continent from Tripoli to Cape-Coast-Castle, visiting Tombuctoo by the way. He reached Cape-Coast-Castle on the 1st of June, 1822. His narrative, which is very long, was printed in the Royal Gold-Coast Gazette, December 31st, 1822; and what is surprising, it has attracted no attention here, though there can be no doubt of its veracity.

This personage sailed from Istambol (Constantinople) in a Turkish ship, and landed at Tripoli, whence he proceeded with a caravan to Mourzouk, and after 60 days' journey from thence he reached Kashna, crossing, one day's journey from Agadez, a river of great breadth. In five days' journey from Kashna, he arrived at Kano, subject to the sultaun of Houssa, named Beeloo, (the sultaun Bello of Denham and Clapperton); his capital is called Secotoo (Sockatoo); he mentions a river near Kano, which is evidently the Girkwa of Clapperton. He remained for some time in the vicinity of Kano, travelling about in different directions from that point. At Laoorie (perhaps a misprint for Yaooree) 25 days' journey from Kano, he sojourned for some time, and travelled to Cumba in 6 days, here he crossed the Quotta (Quorra) a much larger river than that near Kano, which took him an hour to cross in a boat paddled by 16 men. The current ran from east to west: this was probably a bend of the river. After 35 days' journey by way of Goormah, Moose, and Imboolee, he reached a large stream called the Bar Neel (the Joliba) over which he was ferried in half an hour, and in 3 hours after, arrived at Kabra, on the banks of a small stream called Mazzah, and in 3 hours he reached Tombuctoo. The river near it is deep, and flows in a direction contrary to that in which he was going, and which was 200 yards broad. Tombuctoo he represents as a large town, much larger than either Cape-Coast or Coomassie, (the capital of Ashantee,) the houses far better and more regular, and built of mud, with one long street intersected with others, but not very regular. He lodged in a house belonging to the sultaun Mahomed, who had seven houses superior to those of his subjects. It was two stories high with a flat roof, and surrounded, except in front, by a wall inclosing a large yard, where camels and other cattle were kept, and situated in the centre of the town. It was tolerably well plastered, had doors and windows of boards, and was whitewashed with lime brought from Jenne. The houses of the rich are built in the same style as that of the sultaun, whilst the dwellings of the common people are small round huts covered with thatch; he believes that the roofs of the better houses are covered with clay, but knows not whether any thing is mixed with it to make it a cement. Sultaun Mahomed succeeded his father Abubeker in 1814, and was formerly dependent on Bambarra, till the latter had a war with the Foulahs, (the Felatahs of Denham,) in which they were defeated. Sultaun Mahomed was therefore independent, though not powerful, for his power did not extend much beyond the city. The Osman of Cailie is probably the son of this Sultaun Mahomed, and it would appear that he is only the lieutenant or governor for the king of the Foulahs at Masina, who is the lord and sovereign of all these countries, and was compelled by his orders to expel Major Laing from Tombuctoo, and consign him to the care of an Arab chief who subsequently murdered him. Caille, it would appear, escaped, from the circumstance of his assumption of the character and dress of an Egyptian Mussulmaun, and which disarmed suspicion. Instead of placing Tombuctoo in a desert, as Caille and Jomard represent it, this Tartar traveller says, that the country around it is flat and *fertile*, and well adapted for pasturage, and that the number of cattle is considerable; whereas Caille says, that the environs of Tombuctoo are *entirely destitute of pasture*, and present a most monotonous and barren aspect. The Tartar traveller gives full details of the trade and productions of the place. We must say, on the whole, comparing the contradictory accounts given of Tombuctoo, that we still know very little about it; but considering that Caille spent near one twelvemonth at it,—was comparatively under no restraint, passing as an Egyptian Mussulmaun,—was well acquainted with the Arabic language,—could converse with the Moorish merchants, make inquiries, both of them and the Negroes, respecting the commerce, productions, and geography of the regions around,—and took notes and sketches,—such a meagre production never issued from the press.

After all that has been blazed abroad about this wonderful feat of the discovery of Tombuctoo, the knowledge of the geography of the African interior, communicated by French travellers, is not once to be compared with that obtained by the successive labours of British travellers. Who but they laid open the route from the Mediterranean to the very centre of northern Africa? Who but they crossed the dry, parched, and burning Sahara,—discovered the Nile of the negroes,—the great inland lake of Tchad,—the rivers Yeou and Shary,—and the mountains of Mandara? Who but they discovered and explored the vast inland countries,—empires shall we call them,—of Bornou, Agadez, Kashena,, Kano, Zegzeg, Houssa, Sockatoo, and Boussa? Except what has been done by Caillaud, (whose pseudo-discoveries have been so severely exposed by Belzoni,) Ruppell and Rifaud, Mollien and Caille, what have they accomplished towards the solution of the problem of African geography? But the discovery of the course and termination of the long-sought Niger, is the cope-stone of British glory,—one with which that of the site of Tombuctoo vanishes to nothing. A way is now opened up into the interior of Africa, which we are sure will be pursued by future travellers. There cannot now be a doubt, that by means of steam-vessels the various branches and main stream of the Quorra will be ascended with ease, and that in the season of the periodical swell, steam-boats may ascend to Tombuctoo, and carry thither the productions and the civilization of Europe. Instead of penetrating by way of the Gambia, or Senegal rivers, as formerly, or by the way of the Sahara from the Mediterranean, future explorers, whether merchants or missionaries, will take the course of the Quorra. The immense Sahara which separated Central from Maritime Africa, and which for so many ages was a barrier to all communication with the civilized part of the globe, will no longer prevent the entrance of science and religion to those dark abodes of cruelty and ignorance, so long shut up from the rest of the world;—but in order to reap the full advantage of this important discovery, the slave-trade,—that system of abominable iniquity, so long carried on at the mouths of this new-discovered delta,—must be abolished, and the Portuguese and Spaniards no more suffered to enjoy that nefarious traffic; whilst it continues, we cannot expect that intercourse with interior Africa by means of the navigation of the Quorra, will be either safe or easy, and those dealers in human flesh will throw every possible impediment in the way of commerce and discovery. It is this horrible system, encouraged and patronised by Europeans, which has proved the most formidable obstacle to the introduction of civilization and honourable trade, into these vast regions of interior Africa;—it is this nefarious system which has armed nation against nation, tribe against tribe, parents against their children, and eradicated those feelings of nature which unite man to his fellow-man, and rendered the whole of this coast a continued scene of intestine warfare;—it is here (between the mouths of the rivers of Benin and Del Rey,) that the mischievous predominance of Portuguese influence is felt, and where they obtain the most of their slaves, of whom, in the years 1829 and 1830, not less than 100,000 were shipped off to Brazil. Unless rigorous measures are here adopted, and the Portuguese are compelled to give up the trade, every attempt to ascend the Quorra, on the part of merchants, or missionaries, or travellers, is liable at any time to be obstructed by Portuguese slave-dealers, and the internal warfare of the Negro chiefs. If such traffic were annihilated, one great cause of this unceasing predatory warfare would be removed; as there would be none to sell where there would be none to buy. If this were accomplished,—a safe and regular intercourse would be carried on with the interior; the natives would not then be afraid of coming down the river to the coast, of being kidnapped during their voyage, or on their arrival. By means of this water-communication, access into the interior is easy and expeditious, and we shall not have in future to lament,—as we had oft to do so frequently before—the loss of so many lives, illustrious for talent, science, and virtue, in so many unsuccessful attempts to penetrate those hitherto insuperable barriers, which separated the African continent from the rest of mankind. The American colony of Liberia has already been of eminent service in paving the way for free commercial intercourse with the interior, and an intercourse with Tombuctoo is expected, as the road across the Kong mountains from thence is by no means either difficult or laborious; only 25 miles of land carriage is required between the source of the Mesurado, and a point on the Joliba. Between Houssa and Benin, communication is frequent, and there are neither falls nor cataracts in the river. Nechotias, who went to the Calabar river to penetrate into the interior by its channel, was told indeed that it was not navigable to any great distance, being interrupted by a great fall or cataract, which might be heard for several miles, and beyond which, the land rose very rapidly;—this was told him by the slave dealers,—who gave a similar report respecting the other rivers, as the Formosa, Rio del Rey, and Calabar streams; but it is now proved to be false by the voyage of the Landers, who found not a cataract all the way from a little below Houssa to the sea; and if there were none in the Nun or main branch, we are sure there could be none in the Calabar branch, which issues from the main stream a little below Eboe, as the land is very low, without any perceptible descent.

This important discovery will also divert all the commerce of interior Africa to the mouth of the Quorra, and deprive the Moors of that monopoly of the internal commerce they have so long enjoyed. Captain Clapperton, when at Kano, in his first journey S. westward of Bournou, found his projected journey to Nyffie prevented by the intrigues of the Moors or Arabs; as they knew well, if the native Africans were once acquainted with English commerce by the way of the sea, their own lucrative inland trade would from that moment cease. That moment has now arrived, and nothing but judicious management and the abolition of the slave-trade and of Portuguese influence, are wanted to produce the consummation of hope produced by this event, and throw the whole of African commerce into British hands. The discovery of the Cape of Good Hope deprived the Arabs of the monopoly of the Indian trade; and this discovery, if properly appreciated and improved, will deprive them of the African commerce, and of that consequent predominant influence, alike fatal to the prosperity and morals of Africa, they have so long exercised; a road is also now opened for the entrance of pious missionaries, to illuminate that darkened region with the light of the Gospel. It was by means of the monopoly of African commerce that the Arabs were enabled to extend the principles of their faith over the most of Northern Africa; and it will be our fault, if, when a similar opportunity is now presented of doing something towards the spiritual and moral *improvement of African* character, it be neglected and lost. *But there can be little hope of doing good in this way, so long* as slave-dealers are permitted to carry on their wonted traffic, and whilst slavery in every disgusting form, pervades the coast or the interior. Example must accompany precept, and it is not to be expected that Christianity can have any influence on the African mind, when its professed votaries are slave-dealers.

It is somewhat curious, as Malte Brun remarks, that the Arabs make mention of an island called *Ulil*, at the mouth of the Nile of the Negroes, as the only country in Nigritia that has salt-marshes; and there is at the mouth of the Old Calabar river, an island called 'the Salt Land,' which is covered with a layer of sea salt, and on the west bank of which the Portuguese charts mark a town called *Oolil*. Ibn al Warde is the author alluded to, who mentions Oolili as the principal city in Soudan (or Nigritia), on the sea coast, and having extensive salt works, from which salt was carried to the other states of Soudan. This is a striking confirmation of Richard's theory, as the Old Calabar river is one of the mouths of the Quorra. We hear no word indeed of such a commerce in salt now, but it must be remembered that the Portuguese slave-trade has ruined the trade, and annihilated all that commerce which was once carried on between the coast and the interior, the Negroes of the interior not daring to approach within 100 miles of the sea, from fear of being kidnapped and sold for slaves, by their brethren on the coast; so true is it, that this infernal traffic has made man the foe of man, and destroyed all that mutual confidence which is the genuine basis of all commerce and social intercourse.

From long-established custom we have been compelled to use the term *Niger* to indicate the river of Tombuctoo, which was supposed by almost all writers and geographers to be the great inland river of Africa, and that all the other streams which watered this immense region were tributaries of, and emanations from, this wonderful stream; it was also believed that the Niger of Herodotus could be no other than the river of Tombuctoo; we have now every reason to believe that this is not the case, as after leaving Tombuctoo it deflects its course to the S. and S.E., instead of E. as formerly said, and was therefore quite out of the way of the Nasamonian explorers; so that it seems altogether impossible that they could have reached it from the quarter of Germa. Rennel, indeed, has conducted them to the city of Kassina, nearly due S. of Germa, and which he places on the river of Tombuctoo in its supposed eastern course to Wangara; but the fact is, that there is no such river there as that of Tombuctoo, but, on the contrary, a quite different stream, which runs W.N.W. to Sockatoo, and from thence to the Joliba or Tombuctoo river. Our countrymen Denham and Clapperton, travelled all the way from Mourzook to Bournou, and from thence S. to the mountains of Mandara, and *the only river they found in all their roate S. of Bilma, was the Yeou, running N.E. to the lake of Chad*; if the Nasamonian youths were really carried to a great river running eastward, it must have been the Yeou, and not what has been commonly called the Niger. The truth seems to be, that there is no such river as 'the Great Inland river' of Africa; we have got that notion from the Greeks and Arabs; and since modern discovery has quite overthrown such an idea, the appellation, as well as that of the Niger, should be banished our systems of *geography and our modern maps. The river of Tombuctoo has no more* claim to be called the Niger or Great Central African river, than any other large African stream, as the Bahr-al-Abiad, the Misselad, or the Bahr-al-Ghazel (if there be such a river), the Yeou, or the Shary, all of which are inland rivers equally with it, and equally run through countries inhabited by Negroes. That such an appellation as the Niger or river of the Black People, should have been given by the ancients to the only large river of Africa, south of the Sahara, known, and that by report only, to them, is not at all surprising, considering their miserably imperfect information on the subject of African geography; but that we should continue to retain that classical appellation, and apply it to the river of Tombuctoo—as if it deserved that name by way of eminence, as the only large stream that watered the immense region possessed by the Negro race—is absurd; it would be much better to use such names as are usually employed by the natives. But we dismiss the subject for the present, in full assurance that in a very short space of time, by the above discovery, our knowledge of this hitherto almost unknown continent will be vastly enlarged and corrected.

ALGIERS.

At page 412 of the last edition of our third volume, we noticed the successful result of the French expedition against Algiers. The French are now absolute masters of this once formidable African state, which, for three centuries, had been permitted to wage a piratical war against all Europe; and the expenses of a conquest so honourable to the arms of France, and the cause of humanity in general, have been amply refunded out of the spoils of the subjected enemy. The public property found by the French in Algiers, was estimated at 55,684,527 francs, or £2,227,381 sterling: viz.—

In gold and silver specie . . .	48,684,527 francs.
In wool, and other commodities, .	3,000,000
In brass-cannon, 700 in number, . .	4,000,000
Total, ...	55,684,527

This estimate, however, does not include 890 iron-guns, nor an immense quantity of military projectiles and powder found in the city, nor the value of the real property belonging to the state, comprising the half of the houses in Algiers, and which of themselves have been valued at 50,000,000 of francs; wherefore, taking the whole expense of the expedition, both by sea and land, at 48,500,000 francs, according to the estimate of the minister at war, France must have realized by her conquest a clear gain of at least £3,000,000 in actual property, independently altogether of the value of the new establishment she has acquired in this quarter of the globe, in a naval and commercial point of view.

The conquerors of Algiers are now busily engaged in following up a plan of colonization in their newly-acquired territory, and we heartily wish their endeavours all success, for we regard them as calculated to lay a sure foundation for the ultimate civilization of this fair and fertile but hitherto unprofitable region. In the following remarks which have been made upon the measures now pursuing in the Algerine country by France, we heartily concur: "It has been said that France has been unduly aggrandized by her acquisition,—that she has obtained an important naval station in an advanced position in the Mediterranean,—and that the consequences may prove detrimental to our commerce and maritime superiority in that sea. We cannot, however, recognise the validity of such allegations, except as indications of national jealousy. Is not our possession of Malta—which we hold by exactly the same title as the French do that of Algiers, namely, the right of the strongest,—open to precisely the same objection on the part of France? Did not Napoleon, in 1803, urge that objection? And did we not go to war again with France in order to refute it? If the colonial aggrandizement of one nation were to be held as furnishing another with any just ground of complaint or interposition, in what situation would Great Britain be placed by the recognition of such a doctrine? Waiving this, however, and coming at once to the question of colonization, we say that all civilized nations have a direct interest in the spread of civilization, and that this interest is greatest in the case of those nations which are most exclusively commercial. Africa can never civilize itself; it must first be colonized, and a focus or centre established, whence civilization may radiate, as it were, to the different inhabited or habitable parts of that great continent. Little does it signify by whom this is done, provided it be done, in a situation favourable to the diffusion of knowledge and the arts of civilized life. Now Algiers under the occupation of the French, seems to answer all these conditions; and possessing in itself resources capable of prodigious developement, it is also in contact with nearly all the principal tribes which predominate over the African continent, and consequently may well become the parent of that civilization, which, we hope, is destined to penetrate even to its deepest recesses."*

* Foreign Quarterly Review, No. 17, pp. 173, 174.

AMERICA.

We are indebted to the 'American Almanac for 1832,' for the following valuable contributions to the statistics of the United States:

I.—THE CENSUSES OF THE UNITED STATES.

That which most concerns every state is the population of its territory, including, together with the number of inhabitants, a view of their condition and their means of subsistence and improvement. Civilized nations are solicitous especially to ascertain the number of persons who compose their respective communities. Different methods have been practised for accomplishing this purpose; one has been by estimates founded on the number of houses, and arbitrarily allowing a given number of persons for each dwelling; and others, by estimates founded on the number of births, and on the number of deaths. But it is evident that no reliance can be placed on the accuracy of estimates founded on such data; and the only satisfactory method is an actual enumeration of the inhabitants.

Exact enumerations of the population of the most civilized countries of Europe, are of but recent date. The population of France was not accurately determined till since the French Revolution of 1789; nor that of England till 1801. The government of the United States is entitled to the honour, we believe, of having, at its first institution, set the example of establishing a system of an official census of the inhabitants, at regular periods. The primary object of this census is the apportionment of the representatives in congress; but, independently of this object, it is justly regarded as a very important and interesting document, inasmuch as it furnishes the most satisfactory index of the growth, prosperity, and strength of the country.

It was provided by the Constitution that the First Census of the United States should be made "within three years after the first meeting of congress, and within every subsequent term of ten years, in such manner as they shall by law direct." The First Census was accordingly taken in 1790, and the Fifth in 1830; but this last, owing to failures or delays in completing it with respect to several states, has not yet been officially published.

These several enumerations furnish satisfactory views of the rapid progress of population; but it is much to be regretted that a more uniform and philosophical system of classification of the inhabitants, with respect to age, has not been adopted. In this respect there is a great diversity among the several censuses; yet there has been a gradual improvement, and the division adopted in the last is far the best, and, with respect to the white inhabitants, very satisfactory. But in this census, there is a want of uniformity, in the division of ages, between the white and the coloured population; a circumstance which renders it very defective as a basis for comparative views relating to these two classes.

Though there are probably few if any countries that can boast of more accurate enumerations of their population than the United States, yet we are far from thinking that these enumerations possess the degree of accuracy which is desirable or attainable; and we believe that those who know most respecting the manner in which they have been managed, feel least confidence in their correctness. Various errors and defects are to be attributed to the want of fidelity or of competency in the persons employed, and also to the want of adequate compensation for the labour and time requisite, in some parts of the country, for the thorough performance of the business. We hope this subject will hereafter receive more of the attention of the government; and that the plan on which the census may hereafter be taken, will be better formed, and better executed.

As the strength and prosperity of nations are founded on the number, resources, industry, and education of the people, a knowledge of all these matters is highly important to a free government, where all are bound to contribute to the public defence and support, and all have an influence on public measures; and it is important that such knowledge should be diffused among all the citizens.

Other classes of the inhabitants, and other matters in addition to those *which relate to the number of the different classes, might be advantageously embraced in the census, as the number of married persons,* male and female; the number of families, the number of inhabited houses, distinguishing those of stone, of brick, and of wood, whether framed houses or of logs; houses of public worship; academies or grammar schools, and common schools, together with the number of pupils; and the resources of the inhabitants in manufactures and agriculture; the number of horses, sheep, and other domestic animals. Were these several matters embraced in the census, we should have laid before us, in every period of ten years, a highly interesting view of the state of the country in all its parts; and a comparison of each new census with those that preceded it, would afford a correct, and should the prosperity of the country continue, an animating view of the progress of improvement and of society. The authentic information which might be embodied in this form, would be highly interesting and valuable both to the present generation and to the generations which may succeed.

THE FIRST CENSUS:—1790.

In the First Census the whole population of the United States was divided into only five classes, in which the total amount of the several classes was as follows:

1. Free white males under 16 years	802,127
2. do. do. do. of 16 years and upwards	813,365
3. Free white females	1,556,626
4. All other free persons except Indians not taxed	59,511
5. Slaves	697,697
Total	3,929,328

THE SECOND CENSUS:—1800.

In the Second Census the total population of the United States was divided into twelve classes, the free white males and the free white females, being each distributed into 5 classes according to age, and all other free persons except Indians not taxed, forming the 11th class, and the slaves the 12th. The following statement exhibits the total amount of each of the several classes:

1. Free white males under 10 years of age		715,046
2. " "	of 10 and under 16 years	343,650

3.	" " of 16 and under 26 years	393,934
4.	" " of 26 and under 45 years	478,520
5.	" " of 45 years and upwards	263,075
6.	Free white females under 10 years of age	726,[illegible]74
7.	" " of 10 and under 16 years	323,909
8.	" " of 16 and under 26 years	403,553
9.	" " of 26 and under 45 years	406,207
10.	" " of 45 years and upwards	254,991
11.	All other persons except Indians not taxed	110,072
12.	Slaves	896,849
	Total	5,316,577

*** *The numbers of the several classes are not added up in the official form of the Second Census,* and they are stated above as they are found in Seybert's "Statistical Annals;" but the sum total differs a little from the total of the Second Census, as stated on page 601.—In the official form of the *First Census,* there is a slight error in adding the population of Delaware, making the total 59,094, instead of 59,096, and consequently, the whole population of the United States 3,929,326, instead of 3,929,328.

THE THIRD CENSUS:—1810.

In taking the Third Census, the same divisions were adopted as in the second; and the numbers of the several classes were as follows:

1.	Free white males under 10 years of age	1,035,278
2.	" " of 10 and under 16	468,183
3.	" " of 16 and under 26	547,597
4.	" " of 26 and under 45	572,347
5.	" " of 45 and upwards	364,736
6.	Free white females under 10 years of age	981,426
7.	" " of 10 and under 16	448,324
8.	" " of 16 and under 26	561,668
9.	" " of 26 and under 45	544,156
10.	" " of 45 and upwards	338,378
11.	All other free persons except Indians not taxed	186,446
12.	Slaves	1,191,364
	Total	7,239,903

THE FOURTH CENSUS:—1820.

In the first three enumerations "all other free persons except Indians not taxed" were thrown into one mass, without distinction of age or sex, and the same course was adopted respecting the slaves; but in the Fourth Census each sex of both these descriptions of persons was distinguished, according to age, into four classes, and each sex of the free white inhabitants was divided, as in the Second and Third Censuses, into five classes; and in addition, the number of free white males between 16 and 18 years was exhibited in a distinct column. Persons engaged in agriculture, commerce, and manufactures, were also distinguished into three several classes; and "foreigners not naturalized" formed an additional class. This Census gave the following results:

1.	Free white males under 10 years		1,345,220
2.	" "	of 10 and under 16	612,535
3.	" "	of 16 and under 26	776,150
4.	" "	of 26 and under 45	766,083
5.	" "	of 45 and upwards	495,065
6.	Free white females under 10 years		1,280,550
7.	" "	of 10 and under 16	605,348
8.	" "	of 16 and under 26	781,371
9.	" "	of 26 and under 45	736,600
10.	" "	of 45 and upwards	462,788
11.	Slaves:	males under 14 years	343,852
12.		" of 14 and under 26	203,088
13.		" of 26 and under 45	163,723
14.		" of 45 and upwards	77,365
15.		females under 14 years	324,344
16.		" of 14 and under 26	202,436
17.		" of 26 and under 45	152,693
18.		" of 45 and upwards	70,627
19.	Free coloured persons:	males under 14 years	47,659
20.		" of 14 and under 26	24,048
21.		" of 26 and under 45	23,450
22.		" of 45 and upwards	17,613
23.		females under 14 years	45,398
24.		of 14 and under 26	28,800
25.		of 26 and under 45	27,181
26.		" of 45 and upwards	18,881
27.	All other persons except Indians not taxed		4,631
		Total	9,637,999

28.	Free white males between 16 and 18		182,205
29.	Foreigners not naturalized		53,687
30.	Number of persons engaged in agriculture		2,070,646
31.	" " "	in commerce	72,493
32.	" " "	in manufactures	349,506

THE FIFTH CENSUS:—1830.

In the Fifth Census, a new and much more satisfactory division of the free white persons was adopted, each sex being distributed into quinquennial divisions under 20 years, and into decennial classes from 20 to 100: but a different method was followed with respect to the free coloured persons, and the slaves, each sex of these two classes being formed into six divisions. The number of white persons and also the number of coloured persons who were deaf and dumb, were also stated, and each divided according to age, into three classes; and the number of persons blind is also exhibited. The census, however, though the returns are now completed, has not yet been published, and the total number of *each class* throughout the United States, it not yet made known.

II.—POPULATION OF THE UNITED STATES,

ACCORDING TO FIVE OFFICIAL ENUMERATIONS.

States and Territories.	1st Census. Pop. 1790.	2d Census. Pop. 1800.	3d Census. Pop. 1810.	4th Census. Pop. 1820.	5th Census. Pop. 1830.	Per cent., 10 years.
Maine	96,540	151,719	228,705	298,335	399,462	33,9
New Hampshire	141,885	183,858	214,460	244,161	269,533	10,4
Vermont	85,539	154,465	217,895	235,764	280,679	19,0
Massachusetts	37[illegible],787	422,845	472,040	523,287	610,014	16,6
Rhode Island	68,825	69,122	76,931	83,059	97,210	17,0
Connecticut	237,946	251,002	261,942	275,248	297,711	8,2
New York	340,120	586,050	959,049	1,372,812	1,913,508	39,4
New Jersey	184,139	211,149	245,562	277,575	320,779	15,6
Pennsylvania	434,373	602,545	810,091	1,049,313	1,347,672	28,4
Delaware	59,096	64,273	72,674	72,749	76,739	5,5
Maryland	319,728	345,824	380,546	407,350	446,913	9,7
Virginia	747,610	880,200	974,622	1,065,366	1,211,272	13,7
N. Carolina	393,951	478,103	555,500	638,829	738,470	15,6
S. Carolina	249,073	345,591	415,115	502,741	581,458	15,7
Georgia	82,548	162,686	252,433	340,989	516,567	51,5
Alabama	. . .	8,850	40,352	127,901	308,997	141,6
Mississippi				75,448	136,806	80,1
Louisiana	. . .	. . .	76,556	153,407	215,575	40,7
Tennessee	. . .	105,602	261,727	422,813	684,822	62,7
Kentucky	73,677	220,955	406,511	564,317	688,844	22,1
Ohio	. . .	45,365	230,760	581,434	937,679	61,2
Indiana	. . .	4,651	24,520	147,178	341,582	132,1
Illinois	. . .	215	12,282	55,211	157,575	185,4
Missouri	. . .	. . .	19,783	66,586	140,071	110,4
D. of Columbia	. . .	15,093	24,023	33,039	39,858	20,1
Michigan Territory	. . .	551	4,762	8,896	31,260	250,1
Arkansas Territory	. . .	. . .	1,062	14,273	30,388	113,3
Florida Territory	. . .	. . .	. . .	. . .	34,723	
Total	3,929,328	5,309,758	7,239,903	9,638,166	12,856,165	33,4

III.—SLAVES IN THE UNITED STATES.

ACCORDING TO FIVE OFFICIAL ENUMERATIONS.

States and Territories.	Slaves. 1790.	Slaves. 1800.	Slaves. 1810.	Slaves. 1820.	Slaves. 1830.
Maine	0	0	0	0	0
New Hampshire	158	8	0	0	0
Vermont	16	0	0	0	0
Massachusetts	0	0	0	0	0
Rhode Island	948	380	108	48	14
Connecticut	2,764	951	310	97	23
New York	21,324	20,613	15,017	10,088	46
New Jersey	11,423	12,422	10,851	7,557	2,246
Pennsylvania	3,737	1,706	795	211	386
Delaware	8,887	6,153	4,177	4,509	3,305
Maryland	103,036	108,554	111,502	107,398	102,878
Virginia	292,627	346,968	392,518	425,153	469,724
N. Carolina	100,572	133,296	168,824	205,017	246,462
S. Carolina	107,094	146,151	196,365	258,475	315,665
Georgia	29,264	59,699	105,218	149,656	217,470
Alabama	. . .	3,489	17,088	41,879	117,294
Mississippi				32,814	65,659
Louisiana	. . .	. . .	34,660	69,064	109,631
Tennessee	. . .	13,584	44,535	80,107	142,382
Kentucky	12,430	40,343	80,561	126,732	165,350
Ohio	3,417	0	0	0	0
Indiana	. . .	135	237	190	0
Illinois	. . .	. . .	168	917	746
Missouri	. . .	. . .	3,011	10,222	24,990
D. of Columbia	. . .	. . .	5,395	6,377	6,050
Michigan Territory	. . .	. . .	24	0	27
Arkansas Territory	. . .	. . .	. . .	1,617	4,578
Florida Territory	. . .	. . .	. . .	. . .	15,510
Total	697,697	896,849	1,191,364	1,538,064	2,010,436

IV.—THEOLOGICAL SEMINARIES.

NAME.	PLACE.	DENOMINATION.	Com. operation.	No. educated.	Stud. in 1831.	Vols. in Lib.	No. Prof.
Bangor Theol. Sem.	Bangor, Maine,	Cong.	1816	50	14	1,200	
Theol. Sem.	Andover, Mass.	Cong.	1808	514	139	10,000	4
Theological School,	Cambridge, do.	Cong. Unit.	1824	87	33		4
Mass. Epis. Th. School,	Do. do.	Episcopal,	1831				4
Theol. Institution,	Newton, do.	Baptist,	1825	25	22	1,020	2
Theol. Dep. Yale Col.	New Haven, Ct.	Cong.	1822	70	48		3
Theol. Ins. Epis. Ch.	New York, N. Y.	Prot. Epis.	1819	131	28	3,600	4
Theol. Sem. of Auburn,	Auburn do.	Presbyt	1821	157	51	4,000	3
Hamilton Lit. & Th. Ins.	Hamilton, do.	Baptist,	1820	100	86	1,600	4
Hartwick Seminary,	Hartwick, do.	Lutheran,	1816				
Th. Sem. Du. Ref. Ch.	N. Brunswick, N.J.	Dutch Ref.			21		
Th. Sem. Pr. Ch. U. S.	Princeton, do.	Presbyt.	1812	537	92	6,000	3
Sem. Luth. Ch. U. S.	Gettysburg, Pa.	Evang. L.	1826		43	6,200	2
German Reformed,	York, do.	G. Ref. Ch.	1825	11	11		2
West. Th. Seminary,	Allegheny T. do.	Presbyt.	1828		22	3,961	2
Epis. Th. School Va.	Fairfax Co. Va.	Prot. Epis.			19	1,500	3
Union Th. Seminary,	Pr. Ed. Co. do.	Presbyt.	1821	30	42	3,000	3
South Th. Seminary,	Columbia, S. C.	do.	1829		9		2
South West. Th. Sem.	Maryville, Ten.	do.	1821	41	22	5,500	3
Lane Seminary,	Cincinnati, Ohio,	do.	1829				
Rock Spring Sem.	Rock Spring, Il.	Baptist,	1827		5	1,200	1

There are Roman Catholic Theological Seminaries at Baltimore and near Emmittsburg, Md., at Charleston, S. C., at Bardstown and in Washington County, Ken., and in Perry County, Mo.

V.—RELIGIOUS DENOMINATIONS.

DENOMINATIONS.	Min.	Church, or Cong.	Communicants.	Population.
Calvinistic Baptists,	2,914	4,384	304,827	2,743,453
Methodist Episcopal Church	1,777		476,000	2,600,000
Presbyterians, General Assembly	1,801	2,253	182,017	1,800,000
Congregationalists, Orthodox	1,000	1,270	140,000	1,260,000
Protestant Episcopal Church	558	700		600.000
Universalists	150	300		500,000
Roman Catholics				500.000
Lutherans	205	1,200	44,000	400.000
Christians	200	800	25,000	275 900
German Reformed	84	400	17,400	200.000
Friends, or Quakers		400		200,000
Unitarians, Congregationalists	160	193		176,000
Associate and other Methodists	350		35,000	175,000
Free-will Baptists	300	400	16,000	150,000
Dutch Reformed	159	194	17,888	125,000
Mennonites	200		30,000	120,000
Associate Presbyterians	74	144	15,000	100.000
Cumberland Presbyterians	50	75	8,000	100,000
Tunkers	40	40	3,000	30,000
Free Communion Baptists	30		3,500	30,000
Seventh-day Baptists	30	40	2,000	20,000
Six-Principle Baptists	25	30	1,800	20,000
United Bret[illegible]n, or Moravians	23	23	2,000	7,000
Millennial Church, or Shakers	45	15		6,000
New Jerusalem Church	30	28		5,000
Emancipators, Baptists	15		600	4,500
Jews and others not mentioned		150		50,000

VI.—THE PUBLIC LANDS.

The property of the soil of the whole vast region, comprehended within the limits of the United States, and not owned by the separate states or by private individuals, vests in the government of the United States. From the Atlantic to the Pacific ocean, and between the northern and southern boundaries of the republic, it is calculated that there is contained a superficies of fourteen hundred millions of acres. The political situation of the different parts of this superficies is exceedingly various. Dividing it into four belts or strips, parallel, or nearly so, with a meridian line, the first comprehends the Atlantic states; in most of which, particularly in the Middle and Northern States, the land is almost wholly the property of individuals; and what does not belong to individual proprietors, belongs to the state. Thus in Maine there is a considerable portion of land belonging to the states of Massachusetts and Maine; and in Georgia, large tracts in the occupation of the Cherokee Indians are claimed by the government of that state. The General Government possesses no land in any of the Atlantic states, except small portions which have been ceded for forts, dockyards, arsenals, and other like national purposes.

The second belt of land westward comprehends the new states and territories of the Union, in all of which, except Kentucky, there are considerable, in most of them large tracts of public domain; these states having been formed since the revolution, and their population settled on lands either purchased of the United States, or still belonging to them. The number of persons of the latter class, who thus occupy, without title, lands still belonging to the United States, is very large, exceeding, in some cases, that of the persons who have acquired titles. They have, however, generally settled themselves with the purpose of eventually purchasing the land.

The third belt lies westward of the organized states and territories. It comprehends lands acquired by the Louisiana treaty, and of which the Indian title has been extinguished by treaties with several tribes of Indians. As there is no organized civil government, there is no white population in this region, except hunters and vagrants. On the southern portion of this district, west of the territory of Arkansas and the state of Missouri, the tribes of Indians, removed from the Atlantic states, have been, or are proposed to be established.

The fourth belt comprehends all the remaining district to the Pacific ocean. It lies on both sides of the Rocky Mountains. The United States have acquired the title to it by the Louisiana treaty, by the discovery of the coast, and by interior exploration. The title, however, to that part of this region, which is west of the Rocky Mountains, is contested by Great Britain. Great Britain claims, not that the title is in her, but that the region is unappropriated, and open to the first comer. By a convention concluded in 1828, to last twelve years, it was agreed between the United States and Great Britain, that neither government would take possession of it, or occupy it. to the exclusion of the other, during the period of the convention; which either party might renounce, on giving twelve months' notice to the other. A chain of trading posts belonging to the British Northwest Company extends through this region, to the mouth of the Columbia river. It is also visited by hunters from the United States, but in numbers far less than those from the British colonies. The Indian title to this whole fourth belt of land remains unextinguished; and the soil of that part of it lying east of the Rocky Mountains, is supposed, for the most part, to be too sterile to become the residence of civilized man.

The property in these lands was acquired to the United States by various treaties of purchase and cession. The treaty of 1783, with Great Britain, established the Mississippi as the western boundary of the new states, whose independence was, in that treaty, acknowledged by Great Britain. Spain had attempted, during the revolutionary war, in her negotiations with Mr. Jay, and afterwards with the other diplomatic agents of the United States, to fix our boundary much farther eastward. This, however, was invariably and firmly resisted by the United States; and in the treaty of San Lorenzo el Real of 1795, Spain acquiesced in the Mississippi as our western boundary. From that period, the title of the United States has been uncontested by any foreign power, to the lands east of the Mississippi. But a grave controversy long existed between the United States and several of the separate states on this point, of which a few words will presently be said.

By the Louisiana treaty of 1803, the United States acquired, for fifteen millions of dollars, the whole tract of country known by that name, and to the same extent to which it had been possessed by France and Spain. This cession carried the territory of the United States to the Pacific, and indefinitely to the north on the coast of the Pacific. It has, however, been already observed, that Great Britain sets up a claim adverse to ours, on the Pacific coast; how far eastwardly to the interior she extends it, has never been stated by her negotiators.

Considerable controversy arose between the United States and Spain relative to the southern boundary between the two governments, and the title to the province of Texas and the part of Louisiana east of the Mississippi. This controversy was settled by the treaty with Spain of 1819, commonly called the Florida treaty, by which the western boundary of the United States south of the thirty-first degree of latitude was fixed at the Sabine river; all west of it was admitted to belong to Spain; and all east, including Florida, was ceded to the United States.

The boundary of the public domain on the north is not yet entirely settled, in any part of the vast extent from the Atlantic to the Pacific. The portion of the line west of the Mississippi is left undecided for twelve years, by the convention of 1828. Our government has offered to run the boundary on the forty-ninth degree of latitude to the Pacific ocean. The portion of the boundary east of the Mississippi was, after a protracted controversy, and many ineffectual attempts to settle it under the treaties of 1783, 1794, and 1814, finally referred to the arbitration of the King of the Netherlands. The minister of the United States to the Netherlands, and the government of the state of Maine, have protested against the award of the arbiter, as not being within the terms of the submission.

Such are the treaties with foreign powers, which ascertain the title and extent of the public domain of the United States. The title to these lands was the subject of the first great political controversy that divided the opinions of the citizens of the United States, after the declaration of independence. The ancient charters of several of the states extended from sea to sea, or indefinitely to the west. They consequently crossed each other, and threw the same territory into the limits of different states. This was one source of dissention; and another was, that, as the greatest part of the western region was wholly unsettled and the war was carried on at the common charge, it was deemed unjust by those states, whose western boundary was ascertained, that they should have no interest or share in the vacant lands. The discontent of Maryland on this subject was so great, that she refused to come into the confederation, and delayed the conclusion of that instrument of government till 1781; and when she finally acceded to it, did so with a reservation of her rights.

The serious controversies on this subject were put at rest, by several acts of cession, made by the states interested, to the United States. New York set the example, by an act passed on the first of March, 1781. Virginia followed on the first of March, 1784, and her cession was deemed of the greatest importance, as her claim extended over a vast region (the territory northwest of the Ohio), and had been strengthened by the military efforts of the colonial government of Virginia to protect the territory against the French in the former wars. Massachusetts ceded her claim on the 19th of April, 1785, and Connecticut hers on the 13th of September, 1786. By these several acts of cession, the United States acquired an undisputed title to the territory northwest of the Ohio. Out of this territory have been formed the states of Ohio, Indiana, and Illinois, the territory of Michigan, and an extensive territory west of it, which it has already been proposed in congress to organize under a separate territorial government. Connecticut, in making her cession, retained a considerable district in Ohio, known by the name of the "Western" or "Connecticut reserve," which was finally ceded to the United States in 1800, and by the United States to Ohio. The foundation of the ample school-fund of Connecticut was laid in the proceeds of this reserved tract.

North Carolina made a cession of the tract of country now forming the state of Tennessee in 1789. It was subject to a great variety of claims, described in the act of cession. In 1806, congress ceded to Tennessee a considerable part of the public land in that state. The title to the residue is still vested in the United States, but no land-office has ever been opened by the general government in this state, nor have the public lands been surveyed and brought into market. It has been represented to congress that all the valuable portions of them have been long settled, and attempts, hitherto unsuccessful, have been made of late years to obtain a donation of them, or a sale of them, on very easy terms, to the actual settlers. South Carolina ceded her claims to western lands by an act of her state government of 1787. The cession of Georgia alone was needed for the amicable adjustment of this great controversy. This took place, after a series of highly embarrassing transactions, in 1802, when a compact was entered into between the United States and Georgia, by which the latter ceded to the United States all her claims to the lands west of the present western boundary of Georgia, and the United States contracted to extinguish the Indian title east of that line, as soon as it could be done, "peaceably and on reasonable terms." On the tract of land, to which Georgia thus ceded her claim, the states of Alabama and Mississippi have been formed.

The expenditure directly incident to the acquisition of the public lands may be stated as follows: but it must be recollected that other public objects of the highest moment have been effected by those treaties, with Indian tribes and foreign powers, by which the various cessions of land have been attained. The Indian treaties have been frequently treaties of pacification as well as territorial acquisition; and the political advantages of the Louisiana and Florida treaties vastly outweigh, in importance, the mere value of the land acquired.

	Dollars.
Expenses of Indian treaties from 1776 to 1826, . .	3,868,379
Payment to Georgia under the compact of 1802, .	1,250,000
Do. on account of Yazoo Scrip, ...	4,950,000
Purchase of Louisiana, ...	15,000,000
Do. Florida, ...	5,000,000

Expenses of surveying 140 millions of acres, . . .	2,164,000
Do. incidental to the sales of public lands up to June 30, 1828,	1,435,197
	33,667,576

Since the date to which these computations are brought, large expenditures have been made, and much larger ones may be expected to be incurred in extinguishing the Indian title to the lands in Georgia, Alabama, and Mississippi.

The public lands were very early looked to as a source of revenue to the country. As early as 1776, Silas Deane, then a political and commercial agent of the United States in France, communicated to congress a plan for the sale and settlement of the territory northwest of the Ohio;* and, as has been already observed, the calculations of the future value of this region formed the first great subject of collision between the several states of the Confederacy. It was, however, a long time before an effective system was devised, by which the lands could be thrown open to settlement, or made available for the purpose of revenue.

Bounty-lands having been promised by the continental congress to the officers and soldiers of the continental army, it became necessary to redeem that pledge as early as possible. The controversies between the several states and between them and the United States retarded, for some time, the fulfilment of this pledge. On the 20th of May, 1785, an ordinance was passed by the congress of the Confederation, for ascertaining the mode of disposing of lands in the western territory, and this was the first act of general legislation on the subject. This act may be found in the new edition of the Land Laws, p. 349. Under it, very limited sales were made, not amounting, in the whole, to more than 121,540 acres.

In addition to these sales, there were three considerable sales "by special contract," as it was called. The first was, of "the Triangle," a tract of land on lake Erie, west of New York, north of Pennsylvania, and east of the present state of Ohio. It was comprehended in the cessions made to the United States by New York and Massachusetts. This tract was ceded to the state of Pennsylvania on the 4th of September, 1788. It consisted of 202,187 acres, and 157,640 dollars accrued from the sale. The next sale, prior to the adoption of the Constitution, was made to the "Ohio Land-Company," of a tract of land on the Ohio and Muskingum rivers, originally intended to include two millions of acres, but afterwards reduced by agreement to rather less than one million. The price of these lands was two-thirds of a dollar an acre, receivable in evidences of the public debt. The Ohio Company was formed by Winthrop Sargent and Manasseh Cutler, of Massachusetts, and commenced the settlement of the state of Ohio in 1788, then a wilderness uninhabited by civilized man, and now containing a population little short of one million. The third of these sales, by special contract, was also in Ohio, to John Cleves Symmes, of the tract of land between the Great and Little Miami rivers. This sale, originally of one million of acres, was reduced, by an alteration of the contract, and subsequently by a failure to perform its conditions, to 248,540 acres. On the lands included under this contract, were made the first attempts, which proved wholly successful, to settle the territory northwest of the Ohio. The enterprise of the Ohio Land-Company was a little prior in date, but less prosperous.

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* Diplomatic Correspondence of the Revolution, Vol. I. p. 79.

On the 10th of May, 1800, an act of congress was passed, laying the foundation of the land system, as it now exists. *It has received several modifications, at subsequent periods, two of which are of great importance,* and will presently be stated.

Under this law, the substantial features of the land system of the United States, are the following:—

All the lands, before they are offered for sale, *are surveyed, on a rigidly accurate plan, at the expense of the government.* This is the corner-stone of the system. In this consists its great improvement over the land system of Virginia, according to which, warrants were granted to those entitled to receive them, for tracts of unsurveyed public land. These warrants might be *located* on any land not previously appropriated. In the absence of geometrical surveys, it was difficult by natural boundaries, Indian paths, and buffalo traces, to identify the spots appropriated. The consequence was, that numerous warrants were laid on the same tract, conflicting claims arose, and the land titles of the country were brought into a state of the most perplexing and injurious embarrassment. The state of Kentucky and that portion of Ohio allotted as bounty-lands to the Virginia troops, have constituted one great theatre of litigation, from their first settlement. On the other hand, land titles acquired under the system of the United States, are almost wholly exempt from controversies arising from uncertainty of location or boundary.

The surveys of the public lands of the United States are founded upon a series of true meridians. The first principal meridian is in Ohio, the second in Indiana, the third in Illinois, &c., each forming the base of a series of surveys of which the lines are made to correspond, so that the whole country is at last divided into squares of one mile each, and townships of six miles each; and these subdivisions are distributed with mathematical accuracy into parallel ranges. The greatest division of land marked out by the survey is called a *township*, and contains 23,040 acres, being six English or American miles square. The township is subdivided into thirty-six equal portions or square miles, by lines crossing each other at right angles. These portions are called *sections*. The section contains 640 acres, and is subdivided into four parts, called *quarter-sections*, each of which of course contains one hundred and sixty acres. The quarter-sections are finally divided into two parts, called *half quarter-sections*, of eighty acres each, and this is the smallest regular subdivision known to the system. The sectional and quarter-sectional divisions are designated by appropriate marks in the field, which are of a character to be easily distinguished from each other. The half quarter-sections are not marked in the field, but are designated on the plot of the survey, by the surveyor general, marking the distance on one of the ascertained lines, in order to get the quantity of such half quarter-sections as exhibited by his plot of survey. The fractional sections which contain less than one hundred and sixty acres, are not subdivided. The fractional sections which contain one hundred and sixty acres and upwards, are subdivided in such manner as to preserve the most compact and convenient forms.

A series of contiguous townships laid off from north to south is called a *range*. The ranges are numbered north and south from the base or standard line, running due east and west. They are counted from the standard meridian east and west.—The following first section of a private act, passed in 1825, may serve as a specimen of the nomenclature, by which lots of land may be indicated in the system of the public surveys:—

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that, when the Secretary of the Treasury shall be satisfied that John Johnson, of Indiana, did enter, at the Brookville Land-Office, in said state, the east half of the northeast quarter of section thirty-five, and the west half of the northwest quarter of section thirty-six in township seventeen north, in range four east, by mistake, instead of the east half of the southeast quarter and the west half of the southwest quarter of the said sections, it shall be lawful for a patent to be issued to the said Johnson, for the two last mentioned half-quarters, so intended to be entered, on his relinquishing to the United States his interest in, and surrendering the patent issued for, the two first mentioned half-quarters, in such manner as shall be directed by the Secretary of the Treasury."

The dividing lines of the sections, of course, run by the cardinal points, except where what is called a fractional section is created by a navigable river or an Indian boundary. The superintendence of the surveys is committed to five surveyors general. One thirty-sixth part of all the lands surveyed, being section number 16 in each township, is reserved from sale, for the support of schools in the township, and other reservations have been made for colleges and universities. All salt springs and lead mines are also reserved, and are subject to be leased under the direction of the President of the United States. Whenever the public interest is supposed to require that a certain portion of territory should be brought into market, for the accommodation of settlers or others who may wish to become purchasers, the President issues instructions to the surveyor general, through the commissioner of the General Land-Office, at Washington, to have such portion of territory surveyed. The surveyor general makes this requisition publicly known to those individuals, who are in the habit of contracting for public surveys; and a contract for the execution of the surveys required is entered into between the surveyor general and deputy surveyors. The contract is given to the lowest bidder, provided the surveyor general be fully satisfied of his capacity to fulfil the contract. The *maximum* price established by law for executing the public surveys is three dollars a mile, in the upland and prairie countries. In the southern parts of the United States, where the surveys are rendered difficult by the occurrence of *bayous*, lakes, swamps, and cane brakes, the maximum price established by law is four dollars a mile.

The deputy surveyors are bound by their contract to report to the surveyors general the field notes of the survey of each township, together with a plot of the township. From these field notes the surveyor general is enabled to try the accuracy of the plot returned by the deputy surveyor, and of the calculations of the quantity in the legal subdivisions of the tract surveyed. From these documents three plots are caused to be prepared by the surveyor general; one for his own office; one for the register of the proper Land-Office to guide him in the sale of the land; and the third for the commissioner of the General Land-Office, at Washington. The government has generally found it expedient to authorize the surveying of forty townships of land annually, in each land district, so as to admit of two sales by public auction annually, of twenty townships each.

The General Land-Office at Washington is under the superintendence of an officer, called Commissioner of the General Land-Office. It is subordinate to the treasury department.

The public lands are laid off into districts, in each of which there is a land-office, under the superintendence of two officers, appointed by the

President and Senate, called the Register of the Land-Office, and the Receiver of Public Moneys. There are at present forty-two land-offices. The register and the receiver each receive a salary of five hundred dollars *per ann.*, and a commission of one per cent. on the moneys paid into their office.

Till 1820 a credit was allowed on all purchases of public lands. In consequence of this system, large quantities of land had been purchased on speculation; and also in the ordinary course of purchases a vast amount of land-debt to the government had been contracted. To relieve the embarrassed condition of these debtors, an act was passed, authorizing the relinquishment of lands purchased, and substituting cash payments for the credit system. The most beneficial effects have resulted from this change, apart from the relief of those, who were indebted to the government. At the same time the *minimum* price of the land was reduced from two dollars to one dollar and twenty-five cents an acre. In the first instance the public lands are offered for sale, under proclamations of the President, by public auction, with the limitation of the minimum rate. Lands not thus sold are afterwards subject to entry, at private sale, and at the minimum price.

A very large amount of public land is in the occupation of persons, who have settled upon it without title. This is frequently done in consequence of unavoidable delays in bringing the land into market, and not from any intention, on the part of the settler, to delay payment. Laws have been passed, granting to settlers of this discription a pre-emptive right in the acquisition of a title, that is, the preference over all other persons in entering the land, at private sale. These laws afford the actual settler no protection against those who might choose to over-bid him at the public sales; but it is believed that in most cases, by mutual agreement among purchasers, the actual settler is enabled to obtain his land, even at public sale, at the minimum price. It is stated, however, that great injury is done to the settlers, by combinations of land speculators, who infest the public sales, purchasing the lands at the minimum price, and compelling *bona fide* settlers to take them at an enhanced valuation. Should the settler refuse such an agreement, the speculators enter into competition with him at the sale. On the whole it would appear, that on an average, the government obtains but the minimum price for its lands, although the quantity actually sold and occupied, being the choice of the whole quantity brought into market, is of course worth much more.

It has been suggested, and with an appearance of justice, that the price of the public lands is too high. The government, having already reimbursed itself for the cost of them, cannot be considered as having any other duty to perform than to promote their settlement, as rapidly as it can take place by a healthy process, and to meet the wishes of all who desire *bona fide* to occupy them. Considering the class of men most likely to take the lead in settling a new county, one hundred dollars (the price of a half-quarter section) paid in cash to the government, is a tax too heavy perhaps for the privilege of taking up a farm, in an unimproved wilderness. The price is already too low to oppose a serious obstacle to speculation. A considerable reduction of it would not probably increase that evil, while it would essentially relieve the *bona fide* settler. There would in fact, perhaps, be little else to object to a plan of gratuitous donation of a half quarter-section to actual settlers, than the comparative injustice of such a plan towards those settlers who have already purchased their farms.

A novel and singular claim has been set up, in some of the new states, to the entire property of the public lands within their limits. The nature of this work forbids our engaging in a discussion of this subject. No attempt has been made practically to enforce this claim.

It ought to be observed, that five per cent. on all the sales of public lands within the states severally, is reserved; three-fifths of which are to be expended by congress, in making roads leading to the states; and two-fifths to be expended by the states, in the encouragement of learning. The first part of this reservation has been expended on the Cumberland road; and the treasury of the United States is greatly in advance to that fund, on account of this public work.

It appears that up to the present time, about 150 millions of acres of the public lands have been surveyed. Of these, thirty millions have not been proclaimed for sale; twenty millions have been sold, and as much more granted by congress for education, internal improvement, and other purposes. There are then 110 millions of acres surveyed but not sold; 80 millions of which are in the market, ready for entry at the minimum price, and thirty millions subject to be proclaimed for sale whenever there is a demand.

The following tables will further illustrate this subject.*

Table showing the whole Quantity of Land in those States and Territories in which public land is situated; the Quantity of Public Land to which the Indian title had been extinguished June 30, 1828; and the Quantity to which it had not been extinguished June 30, 1828.

State or Territory.	Whole quantity of land in each State or Territory.	Quantity of land belonging to the U. States, to which the Indian title is extinguished.	Quantity of land belonging to the U. States, to which the Indian title is not extinguished.
	ACRES.		
Tennessee	26,432,000	3,000 000	
Mississippi	31,074,234	11.514 517	16,885,760
Indiana	22,459,669	12.308 455	5 335 632
Ohio	24,810,246	4,984 348	409 501
Louisiana	31,463 040	25.364,197	none
Illinois	35,941.902	23.575 300	6.124,640
Michigan Territory, (peninsular)	24,939,870	16,393,420	7,378,400
Arkansas do	28,899,520	26,770.941	none
Missouri	39,119,019	35 263.541	none
Florida Territory	35.286,760	29.728,300	4,032,640
Alabama	31,001,226	19,769,679	9,519,066
	334,627,486	205,672,698	49 985,639
Territory of Huron lying west of lake Michigan and east of the Mississippi river	56,804,851	. . .	56,801,831
Great Western territory, extending from the Mississippi river to the Pacific ocean	750,000,000	. . .	750.000,000
	1,140,432,340		856,790,473
Add quantity to which the Indian title is extinguished	. . .	. . .	205,672,698
Total acres belonging to the United States	. . .	. . .	1,062,463,171

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* In compiling this article reference has been had to the new edition of the Land Laws, published by order of congress in 1828; to article No IX. in the North American Review for October, 1830; to article No I. in the American Quarterly Review for December, 1829; to a Report from the Treasury to the Senate of the United States, February, 16, 1827; to the National Calendar for 1831; to the chapter on the public lands in Seybert's Statistics; to a report of a select committee of the House of Representatives of the United States, 25th of February, 1829, &c.

Table showing the Quantity of Land sold in each of the several States and Territories from the 1st of July, 1820, to the 31st of December, 1829, a period of 9½ years; and also the Quantity sold in each year.

	Acres.	hds.	Of which there were sold	Acres.	hds.
Alabama	1,459,054	78	In half the year of 1820	303,401	09
Mississippi	514,523	82	1821	781,213	32
Louisiana	150,829	35	1822	801,226	18
Ohio	1,405,267	73	1823	653,319	52
Indiana	2,169,119	70	1824	749,323	04
Illinois	667,200	44	1825	893,461	69
Missouri	923,506	32	1826	848,082	26
Florida Territory	336,567	50	1827	926,727	76
Michigan Territory	413,209	23	1828	965,600	36
Arkansas Territory	59,899	36	1829	1,244,860	01
Total	8,167,218	23	. . . .	8,167,218	23

CENTRAL ASIA.

In our account of this extensive but comparatively unknown region, we adopted those boundaries which Nature seemed to delineate in those vast mountainous barriers by which it is separated from the rest of Asia on all sides, and then, for the sake of perspicuity, we divided it into two grand portions, Northern and Southern, physically separated from each other by the great chain of the Mooz-Taugh, and the Great Desert or Cobi; we also subdivided this latter or southern part into Eastern and Western. In this adoption of boundaries and classification of divisions, we did not feel ourselves bound rigidly to follow those of preceding geographers, as Du Halde or Pinkerton, Malte Brun or Klaproth, but chose that order of boundaries, divisions, and description which seemed to us fittest for geographical illustration; we did not adopt the method of Du Halde, because in his day the Chinese empire included but a part of Central Asia, as we have defined it above, and the denomination of Central Asia was not then, nor for many years subsequent to the appearance of his great work, adopted. If we mistake not, Pinkerton was the first who introduced the geographical term of *Central Asia*, in his learned dissertation on the Goths and Scythians, and in the subsequent editions of his very valuable geographical work, the very best which till then had appeared. All succeeding geographers have from him adopted the term, and when its configuration, boundaries, and extent are considered, no other term could so fitly express the region so denominated. Malte Brun, in his classification of the boundaries and divisions of Central Asia, has not included what we have denominated the southern division in Central Asia at all, though for what reason we know not, for from its character and boundaries it is as clearly entitled to make a portion of the great interior convexity of the Asiatic continent as the northern part. The authors of the great Geographical Dictionary—now in course of publication at Paris—have adopted our classification of the boundaries and divisions of Central Asia. After mentioning Mandshooria as an integral part of the great Chinese empire, they add: Mongolia, which forms the eastern part of the Central Plateau, (and be it remembered, that with them the Central Plateau and Central Asia denote exactly the same region;) Tibet which extends on both sides of the southern angle (of the Central Plateau), and is bounded on the south by the Himalaya mountains: lastly, Little Tibet, the lesser Bookharia, and Soongaria which are in the western part of the Central Plateau. See Tom ii. article Asia, p. 447.

As for Timkowski—the account of whose journey to Pekin in 1820 and 1821 first appeared in the Russian language, and then in French, accompanied with notes by M. Klaproth, and finally in English in 1827—his account of Chinese Tartary is a mere transcript of Father Hyacinth's account of Tibet and Mongolia, and of the See-yu-wen-kian-lu, or description of the western countries, published in Chinese at Pekin in 1777. But the translations of the Chinese originals are severely condemned by Klaproth as extremely faulty, and it is impossible for any but Sinologists to determine the matter. The English translation abounds in errors, but whether they are owing to the carelessness of the correctors of the press, or copied from the translation of Eyries, we cannot say, but they are numerous and notorious; as, for instance, in placing the source of the Kerlon 200 li or 60 geographical miles N. of the country of the Ordos, (the Ortous of Du Halde.) and then making it run 200 li N. in the first part of its course before it turns to the S.E. The first is a monstrous geographical blunder; for if so, its source would be in 43° N. lat. instead of 48° 35′ as in Du Halde's maps; and the second is in direct contradiction both to Du Halde and Timkowski's own map of his route in going and returning. The fact is that it runs first S. W., then S. E., and finally E. and N. E. till it enters the lake of Koulon-Noor. There is actually more geographical information respecting Mongolia in the travels of Gerbillon than in Timkowski's book, and the topographical descriptions (as all such verbal descriptions must be) are of no other use but to confound the ordinary class of readers, unless diligently compared with the maps of Du Halde; for the one prefixed is merely that of the route from Kiakhta to Pekin, which, however useful for that purpose, (and in this respect it is eminently so,) is of no more use for illustrating the geography of Mongolia, than that of the route from Glasgow to London would illustrate that of Great Britain. This double route indeed is not laid down in the maps of Du Halde, nor in the great map of China drawn up in 1760 by the orders of Kien Long, nor in Bell of Antermony's travels: as in all these, the country through which they pass is left a mere blank, as Klaproth remarks. But it must also be remarked, that this merely respects the route from Kiakhta to Pekin, for the routes of Gerbillon and others of his order through various parts of Mongolia, as far as Nerchinsky on the one hand, and the confluence of the Toola and Orchon on the other, are well and accurately laid down, with numerous observations of longitude and latitude, as Klaproth justly observes. Timkowski's map represents correctly only the space he traversed, the remainder is less deserving of confidence, and *our manufacturers of maps* would do wrong, if they hastened to copy every thing in his map; for instance, the course of the Kerlon, and the shape of lakes Koulon and Buir, which are much broader than his map represents them. It is also erroneous in making the great wall run to the N. of Nortian instead of to the S., and in the narrative, in a note put by *Klaproth* himself, Kalgan or Chang-kya-kew is placed in 48° 51′ 35″ N. instead of 40° 51 35″ N., and in another, by the same critical Sinologist himself, just four pages after, Swen-wha-foo is placed in 10° 20′ 2″ W. of Pekin, instead of 1° 20′ 2″ from the same meridian—errors entirely owing to the carelessness of the printer.

Under the name of Central Asia, Timkowski includes Western Toorkistaun, and Mandshooria or Eastern Tartary, thus extending it from the Caspian Sea to the mouth of the Amoor, and affirms, that according to the divisions adopted by European geographers, Central Asia comprehends all this space; we are unacquainted with any geographers who include western Toorkistaun and Mandshooria in Central Asia, the former belonging to Western and the latter to Eastern Asia. We have no objections to his including Tangoot in Central Asia, and making it the southern division, but why exclude from it Great and Little or Western Tibet, which from their physical aspect and relative situation to Afghanistaun, Hindoostaun, and China, have much more claim to be considered as portions of Central Asia, than Western Toorkistaun and Mandshooria? He further tells us, that this, his division of Central Asia, will *perhaps* put an end to the old custom of using the names of Tartars, and of Great Independent and Chinese Tartary, so oft repeated by the most celebrated authors in describing this part of the old world. We certainly think the name of *Tartars* very incorrectly bestowed on the nomadic hordes of what we denominate Central Asia, as the Mongols, Mandshoors, and Tibetians, and even to those of Western Toorkistaun, who are all of Toorkish origin; but the name has been so long in use and wont, and grown so familiar to our ears and eyes, as a generic term for all the wandering tribes of Asia, the Arabs, Koords, and Afghauns excepted, that it is more than probable the names Tartars and Tartary will still maintain their ground in spite of all remonstrance to the contrary. Even Timkowski himself at times falls unawares into this blunder, as when speaking of the destruction of the Ywen dynasty in 1368 by Hong-vou; after that event, says he, the Mongols took their ancient name of Tartar. The Mongols were consequently Tartars before their conquest of China, and have been Tartars ever since 1368, by their subsequent adoption of that ancient appellation. He does not say that others called them Tartars, but that they themselves resumed their ancient name. If so, why not call the Mongols by a name which they anciently bore, and which they have since resumed; and call Mongolia, Tartary, as in this case we have his own authority? But Timkowski should have known that the Mongols never called themselves Tartars, and were offended with Rubruquis for calling them so, and told him that it belonged to their vassals, not to themselves who were Mongols; consequently they could never resume a name they never took.

In his description of MONGOLIA from Hyacinth, Timkowski divides it into the provinces of the Khalka and Sharra Mongols, the Mongols of Kokonor. We have very little new respecting Mandshooria; what we have is given not by Timkowski, but by Klaproth, and merely respects its political divisions, which are stated at five, namely,—Ningoutta, Ghirin, Moukden or Shen-yang, Kinchew-foo, and Siou-yan-ching, all comprised under the name of Chin-king: so that our knowledge of that extensive region is much the same as in the days of Du Halde.

Mongolia is divided amongst a great number of princes, of ancient hereditary families, subject immediately to the emperor, and the government is entirely of a military character. The Khalkhas are under four khans, and compose in the whole 86 banners, instead of three khans and 55 banners, as in the reign of Kaung-hee; five more banners were subsequently added, and in 1731 Tsyren, who reigned at Ourga or Kouren, and who was son-in-law to the emperor Yong-ching, was named Grand Shassak, in recompense for his services against the Eluths under Kaldan, and received the command of 24 banners. His title is Sain Noin, and his government forms the western part of the Kalka territory, next the heights of the Selinga, and which extends towards Ili. The other khans, as the Shassaktoo, Tooshidtoo, and Tsitsen or Cheching khan, have the command over 19, 21, and 20 banners, respectively. The first encamps on the southern side of the Khangai mountains, the second near the Selinga, and the third on mount Oundour Daba on the Kerlon. We were mistaken in saying that the present encampment of Tooshidtoo khan was on the Toola at Ourga, depending in this on the authority of Malte Brun, who tells us that the princes and chief priests of the Khalkas lived in a camp called the Aorga on the Toola. The fact is, that in so saying, we confounded the ecclesiastical capital of all the Khalkas, and the permanent residence of the Khootooktoo or visible divinity of the nation, with the encampment of the Tooshidtoo khan, which is still, as formerly, between the Selinga and the Orchon.

Ourga or *Kouren* is situated near the right bank of the upper Toola, and its confluence with the Selbi, opposite the colossal summits of the Khan-oola, (the Hanalin of Girbellon on the left bank,) 250 versts road distance, S.E. of Kiakhta. The place contains 7000 inhabitants, of which one-fifth are lamas; and in a large building are cooked the victuals of the scholars of the lamas, of whom above 1000 are maintained at the expense of the Khootooktoo. The inhabitants live chiefly in tents, whether they be lamas or laymen. The temples are numerous and splendid, standing N. and S., having green roofs, and around the top of one of these is a splendid gilt lattice. Within a large and lofty enclosure is the residence of the Khootooktoo. From the vicinity of Kiakhta to 60 versts beyond or S. of Ourga, all the Mongolian inhabitants are subjects of the Khootooktoo. These are called *shabi* or disciples, and are estimated at 30,000 tents or families. They all pay taxes, besides personal service; the cultivation of the land and superintendence of the numerous flocks belonging to the Khootooktoo,—all of which go to support that pontiff and his court. The climate of Ourga is very severe. The natural humidity of this district, surrounded by mountains abounding in springs, is still further increased by the vicinity of the Khan-oola, whose colossal summits command it on the S. and neutralize the salutary influence of the warm winds, though it be sheltered from the cold winds by a chain of high mountains on the N. The cold is so great that even culinary vegetables are injured by the morning frosts. The inhabitants therefore are compelled to have recourse to the kitchen-gardens of Kiakhta for their vegetables. The appearance of the place is rude and desolate, except when animated by the temporary abodes of the adorers of the Khootooktoo, who arrive here from all parts of Mongolia to receive his benediction. The numerous tents then scattered around, with their numerous horses and camels and flags, present a lively and interesting appearance. When Timkowski was there, it was the period of the re-appearance of this pretended immortal, a boy of seven years. Timkowski wished to see him, but was refused, because the new Khootooktoo, who had been brought all the way from Tibet, was fatigued with his long journey, and with having given his benediction to above 100,000 of his worshippers. Above 1000 camels had been collected by the pious Kalmucs, to bring the deified child from the monastery of Pootald near Lassa, with all his suite, at their own expense, a journey of more than 2000 miles. The manifestation of the new pontiff created an extraordinary sensation amongst the superstitious Khalkas,—men and women, old men and children, richly dressed, mounted on their finest camels or horses, went in crowds to see the infant deity and receive his blessing, and returned to their tented homes full of joy at having seen the face, and received on their head the imposition of the hand of the wondrous child. A fête of three successive weeks is held at Ourga on this occasion, attended by all the khans of the Khalkas, the representative of the emperor of China, the vang of Ourga, and all the nobility of Northern Mongolia. During this joyous festival, horse-races, wrestling-matches, contests at archery, and other games, are successively exhibited. The first are far beyond any thing of the kind exhibited in Europe. On one of these contests, the horse course was 12 B. miles in length, and 1110 horses started at once for the winning-post; and on another course of ten miles long, 1627 horses, all of the age of six years, started together for the prize. The wrestling continued for two days, in a large open area, before the great temple, and the combatants on each side were 268. At the inauguration of a new Khootooktoo in 1729, not less than 26,000 lamas and above 100,000 Mongols attended the entrance of the regenerated deity into the sacred inclosure. When he came out of his tent, he was conducted by the principal Mongol nobles and senior lamas, who held him by the hand and under the arms, and then placed him on a horse magnificently caparisoned, —a *kubilgan* or priest of high rank held the bridle on the one side, and the Ta lama on the other side. The lamas then chanted hymns in his praise, accompanied by a band of instrumental music composed of 200 Mongolians, with large drums, gongs, and brass trumpets; whilst the nobles and the assembled throng bowed profoundly, and raised their hands towards heaven. He rode slowly towards the temple, followed by his sister in a sedan-chair, the senior lama, the envoy of the Dalai Lama or supreme pontiff of Tibet, the Chinese amban, the vang, the Khalka khans, and the other Mongols of distinction,—the people accompanying on both sides till they reached the sacred inclosure, when the procession halted. The Khootooktoo was then taken off his horse by the nearest lamas with the greatest respect, and led through the south gate into the inclosure, and then into the great temple, where, assisted by the envoy of the Dalai Lama and the persons of his suite, he mounted a throne adorned with precious stones and rich stuffs. The amban then announced to the assembled throng, the order of the emperor of China, to pay to the Khootooktoo the honours due to his rank. Hereupon, the whole assembly bowed themselves to the ground three times. Then the new Khootooktoo blessed all present by the imposition of his hand, successively as they approached, —as his sister, the amban, the vang, the principal lamas, the khans, and all the principal Mongol nobility,—when they all retired, but the Khootooktoo still remained in the temple to bless the other lamas and the people. Next day, seated on his throne, he received the presents of the emperor of China from the amban his representative, consisting of a plateau of gold 28 lbs. weight, in the middle of which eight precious stones were enchased. On this plateau were kadacks worth 1000 ounces of silver, and 81 pieces of gold and silver cloth, the making of which cost 800 ounces of silver each; besides 81 dishes from the amban himself, containing confectionaries. All these were presented to the Khootooktoo with the most profound respect, and accompanied with the felicitations of the emperor, who finally, through the amban, solicited the benediction of the Khootooktoo for himself and the empire, which was given by the deified mortal by laying both his hands on the head of the amban, and then he gave his blessing to the lamas and the people. Every one impressed with the idea of receiving it directly from the divinity, advanced successively, and manifested exemplary respect, fervour, and devotion. According to the Khalkas, their Khootooktoo has already seen 16 generations, and that his physiognomy changes with the phases of the moon, having at new moon the appearance of a youth; at the full, of a man in the vigour of life; and appears quite old in the last quarter. At the Khan-oola a great festival is held by the Mongols every three years. There the census of the population is made, undertakings proposed, and differences decided. On the south side is a splendid temple, corresponding to the importance of this assembly. It is steep on the north side, but the declivity is gentle on the south side.

This chain is 40 versts in length, and Girbellon who calls it the Han Alen, went 30 versts alongst the side next the Toola, whose description of this part of the country harmonizes with that of Timkowski. On one of its sides are inscriptions of colossal dimensions, on large white stones in Mongol, Mantchoo, Chinese, and Tibetian characters, signifying celestial joy. In the clefts are stationed tents of guards, to prevent access to the spot sacred to the Khootooktoo. An eternal repose reigns in these valleys; the solitary abodes of numerous wild goats. This range is the first in coming from the S. All the mountains to the N. of the Toola abound in woods, and rich verdure, and wild strawberries, agreeably to Gerbillon's statement: but the Mongols make no use of them, nor of the red currants, wild peaches, and various other berry-bearing shrubs, common to the range of the Khingau Alini. One hundred and eighty versts to the S.E. of Ourga, is *Mount Darkan*; a lofty ridge of red granite, between rocks of which grows the *Robinia pygmæa*. On the extreme southern height is a great obo or cairn of stones, erected by the Mongols, who come here every summer to celebrate the memory of Jenghis Khan: it is highly venerated by them as being the mountain, at the foot of which that hero forged iron in his youthful humble days. A Mongolian chief assured Timkowski, that the anvil of Jenghis Khan still remains on that mountain, made of a peculiar metal called *bouryn*, which has the properties of iron and copper, being at once hard and flexible. At the eastern extremity of the mount Tono, on the banks of the Kirlon, is the chimney of the hut where Jenghis Khan dwelt in his youth; and on this account, offerings are annually sent to this mountain by the shassak *Djonoun, whilst another shassak sends his to mount Darkan. Bourkhann-oola* or the Divine mountain, contains the source of the Onon; and Dourben-Puta, another mountain on that stream, is famed as being the birth place of the Mongolian hero, whose memory is revered amongst his rude and illiterate countrymen, who were delighted to hear from Timkowski, that his fame was still preserved in Europe. His warlike deeds are still chanted, and sung in plaintive and harmonious strains, by the sons of the desert. The young Mongol, accustomed to hear and rehearse the tales of other days, beholds in his nightly dreams the shades of his warlike ancestors. "Where is our dreaded and intrepid Jenghis Khan? The songs of his mighty deeds re-echo mournfully amidst the rocks of the Onon, and on the verdant banks of the Keroulоun."

Respecting the *Sharra* or *Southern Mongols*, they compose 53 banners, according to Timkowski, instead of 49 as in Du Halde; the Ortoos compose 7 banners instead of 6; the Mongols of Kokonoor compose 29 banners instead of 8, as in Du Halde. They were first composed of 5 divisions, under as many taidshas or princes. In 1697, on the defeat of Kaldan, chief of the Eluths, they submitted to Kanghee, who divided them into 19 standards; and in 1725, on account of a rebellion in 1723, they were furthur subdivided into 29 standards, namely: the Eluths 21, the Khoit 3, the Torgouls 4, and the Khalkas 1. Between Ninghya and Kanchew are the Tchoros Eluths, under 3 standards. The Mongols of the Altaian mountains form 19 banners, under a general who resides at Khobdo, E. of the upper Irtish; Soongaria is no longer known under that name, being effaced from the maps of Mongolia by the Mandshoors. It is now called the government of Ili, and the nomadic tribes of that region compose 15 banners, including the 3 banners of Ching-te-foo, a district appropriated for the annual imperial hunt. The whole of the Mongol and Khalka banners amount to 212. How many men compose a banner is not said, for if this were known, the population of the nomadic hordes might be calculated; each shassak, or chief of a banner, engaged to furnish from 3 to 23 squadrons, each consisting of 150 horsemen completely armed; if 13 squadrons be allowed on an average for each banner, the total amount of the 212 banners would amount to a military force of 625,400 horsemen, and supposing this to be one-fourth of the population, the total population of all Mongolia would not exceed 2,500,000 persons. Timkowski is of opinion, that the population of Mongolia, southern and northern, cannot well exceed 500,000 tents, each containing a soldier, that is, a man with his wife and children. This is but a very scanty population for such an immense extent of country; but if the vast extent of ground necessary for the subsistence of a nomadic race and their flocks be considered, together with the arid steppes of Mongolia, when leagues on leagues successive may be traversed without meeting a single tent, Timkowski's estimate may not be far from the truth.

All the Mongol and Khalkha princes are arranged in 6 classes. Those of the first class have an annual salary of £600 each, with 40 pieces of silk of various kinds; the second class have each £500 annually, and 20 pieces of silk; the third class, £260, and 13 pieces; the 4th, £160, and 10 pieces; the 5th, £100, and 9 pieces; the 6th, £65, and 7 pieces annually. The *taidshas* and *tabunan*, who constitute the inferior nobility, have £33, and 4 pieces of silk each, annually. Small as these salaries are, those of their wives, even though princesses of the imperial blood, are still smaller. A legitimate daughter of the emperor has only £330, and 30 pieces of silk annually, if she resides with her husband in Mongolia; and only £130, and 200 bags of rice, while she resides at Pekin, and her husband has only, besides his allowance as a Mongolian prince, £100, and 10 pieces of silk annually, if he stays in his own country, and the same sum, with 150 sacks of rice, during his residence in Pekin. The other salaries to the lower Mongolian female princesses and nobility are still lower, proportionally as the rank descends. The salaries of the Khootooktoos, and high ecclesiastical dignitaries of the Mongols, are all fixed and settled. The whole of the administration of all the countries without the great wall, including Mandshooria itself, is managed by a tribunal at Pekin, called 'the Ministry for Foreign Affairs.' For the purpose of introducing more regularity into its affairs a special commission was appointed in 1811, to make a digest of all the laws and statutes belonging to this department. This work was accomplished in 1818, and published that same year at Pekin. A translation of this curious politico-economical document was subsequently made from the Mantchoo original into the Russian language. Every thing respecting the government of all these countries is minutely detailed, and fully and accurately laid down. Every item of expense is fixed and regulated, whether civil or military, judicial or ecclesiastical, belonging to the government of these regions. The whole revenue of every kind received from Mongolia, does not exceed £60,000 annually, all which is expended in the country itself, in payment to the officers, and support of the temples and other establishments. Except in a military respect, and as a frontier country, Mongolia with the adjacent regions, are of no advantage to China; for idle nomadic hunters and bowmen have nothing to give but the cattle which they rear to the Chinese, for such things as they need. Always engaged in mutual feuds, occasioned by their wandering life, they have always remained the same warlike but idle race, ignorant of all art and science, agriculture or commerce. All the Mongolian chiefs have their vanity, which is extreme, flattered by honorary distinctions from the court of Pekin, which knows well how to soothe it, and by alliances with the reigning imperial family, whose wives are spies on the conduct of their husbands; and the salaries and presents which they receive are of ten times more value than the annual tribute they pay.

The whole of DZOONGARIA is under the government of Ili, and is a most extensive region, bounded on the E. by a branch of the Great Altai, which, running S. E. separates the basin of the Upper Irtish from that of the Djabgan, which runs into the Kirgis Noor (the Kirkir of Du Halde); on the W. by the Talas, which separates it from the Great Horde of the Kirgees; on the S. by the western part of the government of Kansoo, and Chinese Toorkistaun; on the N. side the frontier passes from the Talas by the Tehoui, to the lake of Balkhash, and runs E. and N. E. by the range of the Tarbagatai to the Irtish, where it attains the limits of Siberia, formed by the Naryn, and the Upper Bouktourina which rises in the Great Altai. This government is subdivided into three; namely, that of Ili to the S. W., Kourkara-Oussou to the E. of the former, and that of Tarbagatai comprehends the region to the N. of that of the Ili, and to the N. E. of Kourkara-Oussou. The capital of the whole is *Ili* or *Gouldja*, in the Mongolian and Turkish languages, and *Ii hey-Ywan-Ching* in Chinese; it is also called Ila in Balgassoun, or City of the Ili, on the left bank of which it stands in 42° 48′ N. lat. and 82° 48′ E. of Greenwich, according to Klaproth; and according to others 44° N. lat. and 28° 28′ E. of the same meridian, 580 geographical miles W. of Ouroumtsee, and 3120 do. by the road from Pekin. It is said to contain 10,000 houses, and is a very commercial place, frequented by merchants from all parts of China, eastern and western, Toorkistaun and Hindoostaun. There are 28,000 troops, all cavalry, stationed here, and much resembling the Russian Cossacks. According to Poutemstir, who was here in 1811, there is another great city of the same name, about 30 miles distant, governed by a Dzianghun, who resides there. It is inhabited by Mahometans, whose chief is denominated the Hakim Beg, whose authority extends over all the cities of the vicinity, taken by the Chinese from the Mahometans. The Ili has its source in the mountains Tekes and Talkis, 200 versts E. of the city, and runs N.W. into the Balkhash Noor. 14 versts N.W. of Ili, is Kashmire (not the India city so named) a city of 3,000 houses, and enjoying great commerce. In the second province, there are only two places of importance, Kourkara-Oussou or Swee-ching-foo, on a torrent of the same name, an affluent of the Kour, which runs W. to the Borotala, and the second, Fungjun-foo on the Dzing. They are only military stations, whose lands are cultivated by the soldiers of the station. *Tchougoutshack* is the capital of the N. division or Tarbagatai, situated in 46° 8′ N and 82° 38, E. of Paris, at the eastern foot of mount Tokta. It contains 600 houses, and enjoys some commerce with the Kirgees, and the Russians, and with the cities of Khobdo and Ouroumtsee. The place of this government was formerly on the N.W. frontier, but the climate was found to be too cold, the snow being 10 feet deep in winter; and during the summer-heats, both men and beasts were annoyed by immense numbers of white gnats, which caused frequent ophthalmia, and necessitated the removal of the place of government to the present spot. *Tarbagatai* is the name of a lofty chain of mountains running along the N.W. frontier, and which forms the eastern prolongation of the snowy range to the W. of the Alaktow lake. It commences in 81° 20′ E. lat. of Greenwich, to the E. of the source of the Bouroul-Boukha. It runs in an almost eastern direction as far as Tchougoutschak, and from thence to the N.E., diminishing gradually in height, as it approaches the Saissang lake, and the 85th degree of E. long. It is covered with snow during the greatest part of summer. The large valley in which runs the Imil separates it from the chain of the Tokta; it is called Tarbagatai-Oola, or the mountain of marmots, because of the great numbers of those animals which frequent it. The government of Ili, or the S.W. part, is very expensive to the Chinese government; the northern side being defended by 12 military stations and 30 redoubts, and above 500,000 ounces of silver are annually sent to support and pay the troops, besides several thousand pieces of satin and taffeties. The land-taxes and other imposts are said to amount to 40,000 ounces of silver more, and a contribution in linen, cloth, and provisions is levied from the cities of Eastern Toorkistaun, all which go to the maintenance of the troops in this government. A general with 500 soldiers goes annually to the frontiers of the Kassaks and Booroots, to receive the annual tribute from these hordes, which consists of one cow in every 100, and one sheep in every 1000. Taidshas of the Eluths, the Mohammedan chiefs of the cities of Eastern Toorkistaun, repair annually to Pekin with presents: the Kirgees or Kassaks once in three years, but the Booroots have no fixed period. These last are just the Kirgeesian tribes which dwell or rather roam on the western skirts of the Beloor, between Kokaun and Kashghar. When tribute was for the first time demanded from these highland shepherds, by the Chinese, the Kirgees said, in rustic and honest simplicity, "Heaven has given us grass and water, our cattle are also a gift of heaven, we feed them, and we also maintain ourselves; why then should we give any part of them to others?" Their chiefs did their utmost to persuade them, and at length compelled them to pay the tribute. Afterwards, however, fearing their refusal might be attended with disagreeable consequences, they finally and voluntarily paid the tribute. Some of these Kirgees are so rich as to possess 10,000 cows, and horses, and sheep so many that they know not even their number.

Timkowski places the government of *Ouroumtsee* and *Barkol* (the Parkol of Du Halde) under that of Ili, and what was formerly called Soongaria. This is a complete mistake, as they never belonged to that region, but to Eastern Toorkistaun, and at present compose the western extremity of the province of Kansoo, which includes the great province of Tangoot. He is also mistaken in placing Barkol 300 li N.W. of Hami, or 90 geographical miles. It lies to the N.W. of that city, according to the Great Geographical Dictionary of Paris, only 15 leagues of 25 to a degree in direct distance, which nearly agrees with the Jesuits' map in Du Halde's Atlas, and seems to be the Orto Hotun of that map. This city has a strong garrison of 1000 Mandshoors, and 3000 Chinese, under two generals; all of which, with their families, reside here. It is watered by a river which runs N. to the lake of Barkol. The climate, though in 43° 30′ N. lat., is very cold and rude. Snow falls sometimes very heavy even in the month of June, when the inhabitants are compelled to put on pelisses. From this circumstance agricultural produce is scanty and uncertain. The region around is covered with pines, and produces abundance of mushrooms which serve as food. N.W., a league distant, is the Bukharian city of the same name. Not far to the N. is the lake of Barkol, of an oval form, and environed with mountains. To the S. is the snowy mountain of *Ortokhoi*, which makes part of the high chain of the Tien Shan or Celestial mountains.

Hami is now denominated Tchin-si, and is the capital of a department in Kansoo. *Shachew* is known under the name of An-si. *Ouroumtsee* is the most western city of Kansoo, at the foot of the promontory of the Red mountain. It seems to be the Oramshee of the Jesuits' map, and perhaps the Aramuth of Shade Khodja and Benoit Goes. On the W. it has a ridge of sand-hills abounding in coal; and 8 leagues is the lofty Bokda Oola, or the Sacred mountain, which has three high summits, with transparent glaciers resembling rock crystal. According to the Chinese account, it is covered with perpetual snow and ice which reflect the solar rays, and its summit surmounting the clouds hides the sun and the moon. Klaproth says, that Bokda—and not Bogdo, as in the maps,—is the true name of this eastern prolongation of the Tien Shan from Manas to the Barkol lake, and from this lake N.E. till it joins the Great Altai. Ouroumtsee is situated in a fertile soil in 44° N. lat., and 26° W. lat. of Pekin, according to Staunton's Chinese map; and 27° according to Klaproth, from the same meridian. Since 1765 it has been the residence of a commander-in-chief and two subordinate generals, and in 1775 it was raised by Kien-long to the dignity of a *chew*, or city of the second order. Eight li from the old town a new one was built, called *Koung-Kou*, on eight hills, and ten li in circumference. The garrison of the New Town consists of 3000 Mandshoors with 78 officers, and 2000 Chinese with 100 officers, who all reside here with their families. In the Old Town is a garrison of 3000 men under an inspector, with more than 100 officers and subalterns. It is a place of banishment for criminals, several thousands of which have been sent from the interior of the empire and dispersed in the districts of Changky and Manas to cultivate the Steppes. Ouroumtsee has broad and much-frequented streets, and a great commerce, and is one of the richest cities in Kansoo. It has many tea-houses and inns; theatres, with comedians; itinerant singers; crowds of workmen and artizans of all descriptions. It has a gymnasium; two Boodhist temples; a school for the city and another for the district.

We cannot dismiss this part of the subject without noticing two enormous errors in Timkowski's very useful and intelligent work,—the one chronological, and the other geographical:—Describing the mountains of Mongolia, Vol. II. p. 226, he mentions the *Outekian*;—and says, that in 744 before Christ, Felo, prince of the Wheyke, placed his camp between the said mountain and the Kiunho, 1700 li to the N. of the frontier of China, which then passed to the N. of the Ordos country. The Kiunho is the Orchon. The mountains of Outekian must be near the western part of the Khanggai range: they are also called *Towyukian*. The geography here is correct, but the era when this encampment of the Wheyke took place is not 744 years *before*, but 744 years *after* the Christian era, when the Tang dynasty filled the throne of China. The only people known to the Chinese at so early a period as 744 B. C. were the Hyongnoo; for the Chinese accounts say, that it was anciently about the mountains of Outekian, or the Toukin, that the Tcheniu or Khagans of the Hyongnoo dwelt; but the names of the Wheyhoo and the Wheyke were then unknown to the Chinese, and that for many centuries after. 744 B. C. is certainly a press-error for 744 A. D., for Klaproth, who gives this account in Timkowski's text, could not be guilty of such a chronological blunder. In order to correct this more effectually, we shall subjoin Remusat's account.

The history of the Wheyke, which is joined to that of the Tang, informs us, says Remusat, that a family of that nation, named Lo-lo-ko, dwelt to the N. of the Sieyan-tho, on the river Soling (Selinga), at a very great distance from the capital of the empire. It was that family which, for the first time, gave itself a chief; and he who was thus chosen was called Phousa, who established himself on the banks of the To-lo (Toola). But in 628 A. D. Chin-Choo-pi-kia Kho-han (Khan) placed his encampment on the mount Yo-too-kian. There, he had to the E. the Moko or Eastern Tartars; to the W. the Thou-kiouei or Turks; to the S. the Sandy Desert, and to the N. the river Kiulun or Kirlon. Sometime after he advanced towards the east, and stopped on the mountain Tou-wee-kian (Tu-kin). This latter encampment was to the W. of the To-lo (Toola), and the country of the Chi-wei (Tongousians). It had to the W. the Golden Mountains, or the Altai; to the S. the Turks; and to the N. the government of Han-hai, established in Tartary by the Chinese. Finally, he continues, in 755 (of our era) Kou-tou-lou-pi-kia fixed himself in the ancient country of the Thou-kiowie (Turks), between the mountain Ou-tekian and the river Kiunho (Orchon), that is to say, in the site of Holin (Karakorom), 1700 li to the N. of Su-ching or the city of the West, which the Chinese call Kao-kiowie-sai, and which is the country of the Housie. Here we have the first known date of the existence of the Khans, of the Wheyke, and the place of their encampments. First, they dwelt on the Selinga; next, in 628 A. D. on the Toola, to the S. of the Selinga; and, finally, we find Pikia Khan encamped still farther to the S. W. between the Outekian and the Orchon. The name is not Filo, but Pikia; and the date is not 744 B. C., but 755 A. D., or 450 years prior to the coronation of Temujin or Jenghis Khan.

The second error into which Timkowski has allowed himself to be led respects the source of the Whangho, which is said in this Chinese account of Mongolia, translated by Hyacinth, and re-translated by the redoubtable Klaproth, to originate in the lake of Lop, and then to run a subterraneous course to mount Koulkoun, at the foot of which it re-appears in the small stream of the Altan-kol, or golden river, only three feet deep before its entrance into the Tsing-soo-hai lake. This account is taken from the Dhai Thsingitoudshee, or Imperial Geography of the reigning Dynasty, and is a precious sample of Chinese science. The chain of mountains Kiun-hin or Koulkoun, is on the western frontier of this country, (Koukounoor or Southern Tanjoot). The Whang-ho has its source in them, namely, in the the mountains Aklantzikin Barboukha and Bayan-kara. In 1782, Kien Long sent his equerry, Amida, to present his offerings to this river, whose source he ordered him to investigate. Amida, on his return to court, presented the account of his journey to the emperor, who ordered him to draw up an account of the origin of this river. Well, what does this notable account say?

The *second source* of the Whang-ho issues from the rock of the Khadasoun-tcholo, and forms the Altangol, a small river, whose water is muddy and yellow. It traverses the Odon-tata in Chinese Sing-soo-hai (sea of stars), and runs to the east. *Originally the source of the Whang-ho was in the mountains of Kashgar and Khotan: the streams which issued from them entered Lake Lob-Noor, from which they afterwards issued.* Now what does Klaproth, who is so ready to charge our countrymen, whether in India or England, with ignorance of Asiatic Geography, say to this wonderful account given by his darling Chinese? "This alludes to an ancient Chinese tradition, *which deserves to be examined*, though we know, very positively, the Lob Noor has, at present, no communication with the Whang-ho. See my Memoirs relative to Asia, Vol. I. 413." Instead of candidly confessing this staring fact of Chinese ignorance, and setting this account aside as unworthy of a place in geography, he says, that it deserves to be examined; and his language plainly implies that the lake of Lop had anciently a communication with the Whang-ho, or else, what does his phrase *of this lake having at present no communication with the Whang-ho*, mean, if it means not this? The earliest accounts which Chinese history gives of this lake, are not quite 2000 years old, which is no extraordinary antiquity, and occurs in the history of the emperor Vootee, who reigned from 140 to 87 years before Christ. Speaking of Khotaun under the name of Yuthian, a region then, for the first time, known to the Chinese, after the conquest of the Hyong-noo had laid open the countries to the W. of the Gobi, they say, to the W. of Yuthian, all the rivers run to the W., and go to throw themselves into the sea of the west (the Caspian, or perhaps the Aral is intended). To the E., on the contrary, they run towards the east, and throw themselves into the salt lake, (the sea of Phouchang, or lake of Lop,) from which springs the yellow river. This ignorance continued to the time of Kublay Khan, nigh the end of the 13th century, who sent persons properly qualified to explore the sources of the Whang-ho, who found the remotest source to be at the foot of the Koolkoon range as said above, after a journey of four months. Yet, notwithstanding this ascertained fact, we find that, during the Ming dynasty, the Whang-ho was believed to have its source in the lake of Lop. So great was Chinese ignorance when the Jesuits entered China, that the Icy Sea was represented as at a small distance from the Great Wall. They hardly knew the existence of the Amoor, and took Samarcand not for a city, but for a vast region to the W. of the Gobi. The same ignorance of the source of the Whang-ho did not exist under Kanghee, who took all possible methods to know the geography of his own empire. But since the source had, under the Ywen and the present dynasty, been discovered not to be in the lake of Lop, but in the chain of the Koolkoon, and, therefore, that their fathers were wrong, how was this to be reconciled with the wisdom of antiquity, of which the Chinese speak so much and so highly? Why, the only way to save the credit of their ancient books and sages, was to make two sources of the Whang-ho,—one in the lake of Lop, the old one,—and the other in the Koolkoon mountains, the new one, and contrive a hidden subterraneous communication between the two. The true Kiunlun, therefore, continues the Chinese account, was in Eastern Toorkistaun, where are the first sources of the Whang-ho. Writers who were ignorant of it, took the Koolkoon of Koukou-noor for the Kiunlun; so, consequently, we have three sources of this river, according to the wise Chinese,—one in the mountains of Kashgar and Khotaun—one in the lake of Lop,—and the third or last in the Koolkoon. Again we are told in a succeeding page of Timkouski, that the Whang-ho issues by subterraneous channels from the said Lake in Little Bukharia, receives the Altan-gol, passes through the Odontala, and pursues its further course to the east. It seems, therefore, that the Whang-ho does not re-appear in the Altan-gol as the equerry Amida had said in his statement, but somewhere else, though no one ever saw it, and receives the Altan-gol near the foot of the Koolkoon.

All this precious stuff is translated from the Chinese original by Hyacinth and Klaproth, without note or comment, except where the latter translator gives the hint that a communication might once have existed between the lake of Lop and the Whang-ho. But, in the first place, the lake in question is a salt lake, as the Chinese themselves admit; and how, therefore, can it be the parent of a fresh water stream? And, in the second place, the level of that lake is, or must be, vastly lower than the source of the Altan-gol, as it is the common receptacle of all the waters of Eastern Toorkistaun to the W. of Hami, which flow from the Beloor, the Mooz-Taugh, and the Tienshan, and is, therefore, the lowest level of that extensive region; and, therefore, such a water-communication, whether subterraneous or above ground, is, between the one and the other, a physical impossibility. We are perfectly sure that the source of the Altan-gol, the parent-stream of the Whang-ho, is as high if not higher than the source of the Ganges, or more than 13,000 feet; and we are equally sure that the level of the Lop lake is not half that elevation, as the rivers of Kashgar and Yarkund have, at least, 1000 miles of a sinuous course to run before they reach that reservoir. "From Sining S.W. to the source of the Whang-ho, is more than 20 days' journey, of continual ascent; and the mountains (the chain of the Basankara) are much more elevated on the side towards Sining, than towards Tibet. Certainly these little hills whence the streamlet of the Altan-gol takes its rise, must be vastly higher than the sea, says Du Halde, since this river, which is very rapid, discharges itself into the Sing-soo-hai lakes; and the Whang-ho has a very swift current from these lakes, for 1000 French leagues to the Eastern Sea. Sining itself, as lying in the S.W. angle of Kansoo, in the vicinity of very lofty mountains, must itself be very elevated above the level of the sea. Thirdly, The distance between the Altan-gol and the lake of Lop, N.W. and S.E., is not less than 500 miles in a straight line, a very extraordinary distance indeed for a subterraneous communication, and all the way up hill so to speak. Now, if Mr Klaproth (and, be it remembered, he is a German anti-naturalist, of too squeamish a stomach to digest the tale of a universal deluge, or the confusion of tongues.) can conceive the possibility of a fresh water river once issuing from a salt lake, of an ancient communication between the Lop Noor and the Whang-ho, yet not so ancient as the commencement of Chinese history 3000 years before Christ; and, that, notwithstanding the vast difference of level, the Whang-ho ran once upwards of 500 miles of continued acclivity from said lake to the Altan-gol, when it then began, like other fluids, to descend, his intellect, if we may call it so, must be quite different from that of other men,—it must be of the Bizarre order.—So much for his strange note, that the Lop lake *has at present no communication* with the Whang-ho, and that this ancient Chinese tradition *deserves to be examined.* But he is a man who can believe or can not believe just as he has a mind. He can conjure up great nations, as Mr Morison observes, of which nobody ever heard; and strange ones too, as the Amazons of Central Asia. He can believe Moses just as it suits his convenience. He can believe in the present existence of antediluvian nations and antediluvian languages. He can believe that the first founders of the Chinese nation amounted to 100 families, who crossed the Kiunlun 3,000 years before Christ, and successively exterminated the Aborigines. If you ask him where he got this extraordinary piece of intelligence, he conjures up a Chinese book of very high antiquity, which no one ever saw but himself, called Pih-kea-sing, which has preserved the names, the very names of these 100 families, which, he adds, are still those of the families now living in China. He can believe in the existence of green stags in Tibet, with one horn and the tail of a horse, such as that which spoke four languages, and told the Mongols under Jenghis Khan to turn back; and yet he can impugn the veracity of Moses, and deny that the reverend Mr Morison was the author of the Chinese Dictionary, which he published under his own name, and deny that our countryman discovered the source of the Ganges.

Respecting EASTERN TOORKISTAUN, Timkowski has not added much to our previous information. The Tienshan, which separates this region from Soongaria, is called the *Swee-shan*, or Snowy mountains, by Timkowski, who extends it 5,000 li or 25 degrees, or more than 1700 B. miles from W. to E., all the way from the source of the Koksoo or river of Kashgar to the fortress of Kya-yoo-kwan, forming the boundary between the northern and southern countries, the former being called *Pelou* or the Northern road, and the latter *Nanlou* or the Southern road. But we have no exact description of the mountain ranges that either intersect or bound it on the N. or S. The fact is, that the Tienshan or Sweeshan, and the Nan-shan or Mooz-Taugh are strangely confounded together. For instance, the Mirdjai or Kashtash. as it is called, does not belong to the Tienshan, but to the Nan-shan, or the southern chain, for it lies to the S.W. of Yarkund, on the road to Little Tibet and Ladak. The Moussour Oola between Oochee and Eelah, is a range of glaciers, whose icy covering gives it the appearance of a mass of silver; a road cut across these glaciers leads from Oochee to Eelah. The road across, from Terme Kada, on the S. side, a station surrounded with rocks, to Gaktsa Karkai, the opposite northern station, is 120 li or 40 B. miles. Going southward from this latter, nothing is seen but a vast tract of snow, which is very deep in winter. Both men and cattle follow winding paths along the sides of the mountain. Whoever ventures, imprudently, to cross this sea of ice is inevitably lost. At 20 li distant is the glacier, where neither sand, nor grass, nor trees are seen: nothing but gigantic masses of ice, piled mass on mass, salute the eye. In the clefts separating the blocks of ice, nothing appears but a gloomy void, impervious to the solar rays. The noise of the waters flowing beneath these masses resembles thunder. Here and there lie scattered the bones of horses and camels. To facilitate the passage across, steps have been cut into the ice, but they are so slippery that both the ascent and descent are extremely dangerous. Many travellers perish amid these precipices. Men and cattle must go singly, and tremble while they pass through these inhospitable rocks. If overtaken by night, passengers must look for a great stone on which to rest. These, however, though several toises in dimensions, are often supported by a very slender piece of ice, under which travellers are compelled to pass. If it is a calm night, very pleasing sounds are heard, as of several musical instruments united, caused by the echo of the noise made by the cracking of the ice. The road frequently varies. An animal between a wolf and a fox, and considered as sacred, inhabits these mountains; in the morning the passenger looks for its footsteps; and, if he follows them, he can never miss his road. There is also a grey eagle, which, by its cries, indicates to travellers who have missed their road, how to proceed. Far to the W. are seen the steep summits of an inaccessible mountain. As soon as we arrive at Terme-Kada, the southern post, is seen a rapid river rushing impetuously from the glaciers towards the S.E., and which, after forming several branches, enters the Lop-Noor. For about 80 or 90 li from this station nothing but gigantic rocks appear, between which the cattle have to seek their food. The governor of Oochee sends annually an officer with a sacrificial offering to this glacier; and the Mahometans of Eastern Toorkistaun sacrifice a ram before they ascend this range of the Moussour Oola. Ice is met with on all its summits throughout its longitudinal extent; and the range is so steep and rugged, that it is necessary to abandon the road which has been taken to-day, and make another from N. to S.; for, although men are daily employed by government in cutting steps into the ice, in the afternoon the action of the sun has either wholly melted them, or rendered them quite slippery and impassable. The ice often bursts beneath the feet of the unhappy traveller, who inevitably falls into the chasm and is seen no more. The appellation of the *Moussour-Oola* or Icy mountain, is well applied therefore to the chain of the Teinshan. Between Auksoo and Yarkund, 18 orlongs or stations asunder, is another very elevated range of mountains not mentioned by either Timkowski or Klaproth, entirely covered with ice and snows, according to the account of a Bukharian merchant, who has many times traversed the commercial route from Cashmere to Semipalatnoi on the Irtish, a Russian post near the Chinese frontier. This range, according to Professor Senkowski of St Petersburgh, has no place in our maps. The Bukharian merchant above-mentioned, assured Senkowski of the fact of its existence, and described to him, with feelings of horror, the aspect of these eternal ices which entirely cover the mountains over their whole summits with extraordinary splendour, so that the traveller imagines himself to see so many mountains of crystal. That same man, and two others of his nation, assured me, says Timkowski, that this chain is precisely that which is called the Mooz-Taugh, or mountain of ice. This account is a clear proof of our ignorance of the geography of Chinese Toorkistaun, as the very existence of such a chain between Yarkund and Auksoo was not so much as suspected, and how little reliance can be placed on the accuracy or fulness of Chinese geography however much it be cried up by Klaproth, who makes it the infallible standard of geographical truth by which all other accounts must be tried. We have no accounts whatever from the Chinese, who are the only persons from whom we might expect them, as being the only persons who could give a description of the southern range which separates Chinese Toorkistaun from the upper basin of the Indus. All our knowledge of this immense range, the famed Kiunlun of their writers, is from Izzet Oola, a Mahometan merchant, whose journal has been published of the route from Cashmere to Ladauk, by Elphinston, and of that from Ladauk to Kashgar, by the Asiatic Journal of Paris, and from this last to Kokaun, by Mr Fraser. Another account of the whole route from

Cashmere to Yarkund, from Yarkund to Auksoo, from Auksoo to Eelah, and from Eelah to Sempatal on the Irtish, has been published by Senkowski, in Persian and French, with notes. As they are merely routes, however, the knowledge gained by the perusal of them, cannot go beyond the routes themselves, but still they give something where the Chinese have given nothing; and as to Klaproth's account of Ngare or western Tibet, given from the infallible Dha-sepsitoundshee, in his account of Tibet, it is perfectly barren, giving nothing beyond what can be gleaned from the maps of Du Halde, which in this quarter of Chinese domination, comprehending the tract between the Himalaya and Chinese Toorkistaun, presents almost a perfect void, interrupted here and there by a lake or a mountain.

Respecting the topography of CHINESE TOORKISTAUN, the lake of Lop is placed 500 li or 150 geographical miles S.W. of Toorfaun, though in the maps of Du Halde it is placed to the S.E. of that city. We are further told that there are two villages of 100 houses each near this lake, whose sole subsistence is derived from the fishery of this lake, and who manufacture linen from wild hemp, and make pelisses of swans' feathers. They speak Toorkish, but are Mahometans. They dispose of their fish at Kourle, a town on the Khaidou, but they neither eat bread nor flesh, as that species of food does not agree with them.

Toorfaun is placed 1130 li or nigh 400 miles W. of Hami, though in Du Halde the road distance, and that round by the hills, is stated at only ten days' journey. It is called the residence of a prince who has under him six towns, Pichan, Lemtsin Seghim, and Toksoun, Kara, Kodja, and Toorfaun. It is said to be tolerably well-peopled; yet, it is stated in the same page, that the whole collective population of the six towns is not above 3.000 families, most of whom are very poor.

To the W. of Toorfaun is *Karashar*, on the Khaidou, 870 li or 300 British miles distant, a large city, and was probably the Yuldeez of Sherefeddin and the Cialis of Goes. In its vicinity is the chain of the Yuldeez mountains, 1000 li in extent, abounding in water and pasturage, and the level tract watered by the Khaidou, was so fertile as to obtain the appellation of the rich district; but it was ruined by the Soongarians. 350 li or 150 geographical miles W. of Bougour or Pou kouiool, is Koochey, a town of 1000 families, who pay into the treasury of the province 2000 sacks of wheat for the support of the garrison; 1080 kin of copper, which is sent to the mint at Oochee; 200 kin of saltpetre, and 300 kin of sulphur, both of which are sent to Eelah to be made into gunpowder. It is the capital of an extensive district, and is considered as the key of Chinese Toorkistaun, or as it is at present called, the New Frontier. It is in part mountainous, but fertile and well-cultivated. In some places the soil is arid, but watered by canals of irrigation, executed with much skill. In the mountains to the N. are numerous caverns, which, during the summer nights, shine with great splendour like burning lamps, but they are difficult of approach; and in winter these cavernous fires are extinguished by heavy falls of snow. The mountain containing these flaming caverns is called the mountain of Sal-Ammoniac. Klaproth says that this mountain is mentioned by Chinese authors under the name of Ho-shan, the mountain of fire. On the side of this mountain say they, all the rocks burn, melt, and run for some tens of lis. The mass in fusion cools and hardens. A Chinese author of the 7th century, speaking of Kowithsoo (Koochey, according to Klaproth), says, that 200 li (or a degree) to the N. of that place, there is a white mountain (Pe-shan), which is also called *Aghie*. It throws out fire and smoke continually. It is from thence sal-ammoniac comes. This name, says Klaproth, seems to be the same as Ho-shan, 'the mountain of fire,' and is probably the same mountain at present called Khalar. According to the report of the Bookharian merchants, who bring sal-ammoniac to Russia and Siberia, this article is found to the S. of Korgos, a city on the Ili. So great a quantity is found there that the people of Koochey pay their taxes with it. It is in winter only that these caverns can be approached, during the season of the greatest cold, when the sal-ammoniac is found in the form of very hard stalactites, which is with very great difficulty detached from the rock. This volcano, of course, is in the snowy chain of the Tein-shan, in 42° 35′ N. lat. Other volcanic appearances are found in the same chain, farther to the E., in the vicinity of Khobok-sari. 1000 li or 5 degrees of a great circle to the N.W. of Koochey, is *Ouchee*, now called *Yan-pin* by the Chinese, a city built close to the southern mountains, on the southern side of a large river. It has a mint for coining, and is the capital of a district containing the towns of Oochee, Auksoo, Bai, and Sairam or Sailem. Its territory extends N. to the Moussour Oola, or the *glaciers*. 200 li from Oochee is *Auksoo*, a city containing 6000 houses, and a customhouse, where duty is paid by all the foreign merchants, as the Chinese, the Kirghees, the Cashmerians, Hindoos and Bookharians of Tashkunt. On every 30 pieces of goods, one is exacted: the Cashmerians alone pay only one piece in 40. It is the residence of a Chinese amban, and has a garrison of 3000 soldiers. S.W. of Auksoo is *Yarkund*, a city containing 12,000 houses, and may therefore be justly deemed the largest city of all Chinese Toorkistaun. The inhabitants pay to the Chinese government an annual tribute of 35,370 ounces of silver; 30,540 sacks of grain; 30 ounces of gold; 800 kin of olive oil, besides taxes to the amount of 1649 ounces of silver. These go to support the garrison of 4500 soldiers stationed in the city. They have also to pay 57,569 pieces of calico; 15,000 kin of cotton-wool; 14,832 linen sacks; 1297 pieces of cord, and 3000 kin of brass to the treasury of Eelah. Yarkund has nine cities under its jurisdiction of 1000 houses each. It is a place of very extensive commerce. In the neighbouring river is found the stone *yu*, so much valued by the Chinese, but geologists and chemists are by no means agreed as to what kind of stone it is; but the city of Yarkund is bound to send 10,000 kin of it annually to Pekin. *Kashgar* is placed 1000 li or nearly 350 British miles distant from Auksoo, and pays an annual tribute of 36,000 ounces of silver to the Chinese government, and 14,000 sacks of corn annually, all of which goes to support a garrison of 10,000 men stationed there. It has nine towns under its jurisdiction: it contained 16,000 persons who paid taxes, and who were all in good circumstances, skilled in polishing the *yu* stone, and in manufacturing gold stuffs. Khotaun is not once mentioned in this description of Boukharia, although it is both mentioned and described in the very book whence the account of Chinese Toorkistaun is taken which we have given above.

Amongst the written communications of the late lamented and interprising Mr Moorcroft, and now in possession of the Royal Geographical Society, are hearsay notices respecting KHOTAUN and its commerce, which he obtained at Lehor-Ladauk. Like the most of hearsay geographico-hydrographical information, these notices are not entitled to much regard.

Now that the course and termination of the Niger are so happily and clearly ascertained, we all know what a mass of contradictory and discordant hearsay notices previous to this discovery were jumbled together, so that no one could unravel the matter, or make any thing of it. So is it with this communication of Mr Moorcroft, which was entirely of a private nature, and never meant to meet the public eye. In the first place, he ventures to call in doubt the existence of such a city as Khotaun, depending for this doubt on the authority of a traveller who had twice visited all the cities of Khotaun, in the capacity of a merchant, and found no city so called, and on the authority of another traveller, a native of Ladauk, who said the same. Hence, he supposes the name *Khotaun* belonged to a region, and not to a city; and that all former travellers and geographers were mistaken in calling Khotaun a city, since it was the name of a region and not of a city; and, although Marco Polo mentions Khotaun as a city, he doubts if even the illustrious Venetian ever saw it. The whole cause of this scepticism—and Moorcroft does not seem to have been aware of it—is owing to the Chinese practice of altering the names of cities, even in their own country, so frequently that it is difficult to recognise their identity. Even several of the cities of Bukharia, and Khotaun amongst the rest, have received new names since the rebellion of 1826-1827. When Khotaun fell into their power in 1759, its name was changed into that of *Ilitchi;* and, under that name, it is recognised in the Journal of Izzet Oola; and even in the late accounts from Pekin of the rebellion in Chinese Toorkistaun, the name of Khotaun, as a city, appears equally with those of Kashghar, Yarkund, and Auksoo, all of which fell under the power of the insurgents. If any one still doubts of the existence of Khotaun as a city, he may consult the very learned researches of Remusat on this very subject, who has incontestably proved its existence as a city so named for more than 2000 years. Khotaun is not a Chinese, Mongolian or Turkish word, but a corruption of *Koustana,* a Sanscrit appellation, denoting 'the breast of the earth;' the Chinese orthography of which is *Kui-sa-tanna,* and is applied as an appellative both to the region and the city. Ilitchi, therefore, being its modern political name, we must not be at all surprised if Moorcroft's informants did not find it called Khotaun, but Ilitchi; and Khotaun, as the name of the city, is recognized by all the Mohammedan writers down to Sherefedden. Moorcroft himself supplies a reason of the fact in the following words;—"If ever a city called Khoten did exist, its name must have been changed, no extraordinary thing in China; or it must have been destroyed by some disaster." The former of these suppositions is actually the case, as shown above. His informant mentioned it as a well-known fact, that a large city in the territory of Khotaun lies buried under a drift of sand, although unacquainted with its name, or with the period or manner of its destruction, and leaves the reader to infer that this buried city was possibly that called Khotaun. That such a catastrophe really happened is true, and it is mentioned in an account of Khotaun written in the commencement of the Tong dynasty, at the beginning of the 7th century, in a Chinese work called the Thong-chou; but it is there mentioned as an event which had taken place long prior to that era, the beginning of the 7th century. There we are told of a city called Ho-lao-lo-kia, to the N. of another called Pima, which latter was 330 li to the E. of Khotaun, which was suddenly overwhelmed by a drift of sand, under which it was entirely buried. According to a Boodhist tradition, this signal calamity befell the people of that city, as a just punishment of their crimes; and specially for that of insulting a Rahaun or Boodhist priest, burying him up to the neck in the sand, and then leaving him there to perish without food or drink. One of the inhabitants, however, a devout Boodhist, took care to supply him with both in person. The grateful Rahaun told him at his last interview, that, in seven days, the city should be entirely buried under a drift of earth and sand, so that none could escape; and warned him to take precaution in good time to escape that calamity, which would come as a just punishment for burying him in the sand, and then he suddenly disappeared. The man ran with haste to warn his parents, but they, and all the inhabitants, mocked him. The second day there arose a great whirlwind, which tore up the grass by the roots, and was succeeded by a deluge of rain which plowed up the ground and filled all the streets and lanes with water. The inhabitants vented unceasing imprecations against these calamities; but the man, foreseeing what would happen, fled hastily out of the city, and ran for refuge to a sort of cave which he had prepared secretly; and, on the seventh day, as the Rahaun had predicted, the city was buried under a drift of sand; and the man who had escaped, issued from his cave, and ran to the city of Pima (the Peym perhaps of M. Polo), where he stopped. The city of Ho-lao-lo-kia is now no more than a vast heap of sand. The neighbouring princes have oft endeavoured to dig in this heap, to take away the vast wealth there buried; but on every such attempt a furious blast suddenly rises, with clouds of smoke and dense murky vapours, which covers all the road and bewilders the labourers. Such is the account given more than 1200 years since. Of this catastrophe, and the city thus destroyed, it is, in all probability, the very one reported to travellers in the country of Khotaun, as buried under the sand; and as the place in question occupied a small oasis in a desert of moving sands, the story is by no means improbable.

According to Moorcroft's information, the country of Khotaun is 12 days in length from W. to E., but two only in breadth from N. to S., and is bounded by the Tibetian mountains on the S., by the territory of Auksoo to the N., by Yarkund to the W., and on the E. by *China proper.* This is undoubtedly erroneous, as the Great Gobi or Desert of moving sand intervenes, separating it from the province of Khoukou-noor and the western extremity of the district of Shachew in Kansoo. It is further added, that it is only 40 days' journey from Khotaun to Pekin, but *the road is interdicted.* This is a notorious falsehood, as Khotaun is at least 2000 British miles direct distance from Pekin; and from Khotaun to the western extremity of China, is a journey of 40 days through the Gobi, or Desert, without a single habitation all the way; and hence the caravans, instead of taking this route, which, long and bad as it is, is still the shortest, take the N.E. route by Toorfaun, Aramuth, Khamil and Khya-yu kwan, which, though much longer, has some stations or resting-places with wells to refresh men and cattle. The soil of Khotaun is there represented as most luxuriant and fertile, though very sandy, with water near the surface, well-tasted and wholesome, the very characteristic of an oasis; the climate dry and very salubrious; the winters colder and the summers hotter than those of Ladauk. Almost every house is provided with a well. The people are said to be tall; the males are well formed and robust, with pleasing features and complexions of red and white; the females of delicate and elegant forms, and remarkable for the beauty of their eyes, eye-brows and hair, the latter of which is carefully preserved in the greatest possible luxuriance of growth; and they are not subjected, like their Tibetian neighbours of the same sex, to the drudgery of out-door work. They spin cotton within doors, rear silk-worms, and wind the thread; but the men gather and bring in the mulberry leaves for feeding the worms. The cities of Khotaun are represented as six in number, in perfect agreement with what has been given in our short account of Khotaun, viz., Karakash, Eleechee, Yooroong-kash, Chura, Kurreea and Yangee Kishlak. Of these Karakash (the Halahache of Keinlong's map) is the most western. The name denotes the city of the river of the Black Yu or Jasper, not the city of the Black river as Moorcroft says. It is seven days' journey—112 cos or 224 road miles—from Yarkund, and contains 3000 houses, without including those of its district. Ten or twelve cos to the S.E. is Eleechee or Khotaun, with 6000 houses; the residence of two Chinese ambans, with a garrison of 500 soldiers, and the head quarters of the Mussulmaun Hakim, or governor of the province. To the S.E. is Yooroong-kash, or city of the river of White Yu or Jasper, not the city of the rapid river as Moorcroft has it, who seems to be no adept in the Oriental Toorkish. It is placed by his information only one cos from Eleechee, whereas, according to Keinlong's great map, it is 8° to the S., and 15° to the E. of it; and, according to the Mingitoundchee, 30 li or 10 geographical miles to the E. of it. Chura (the Tchila of the above map), three days' journey S.E. of the former, contains 2000 houses, whilst Yooroong-kash has 1000 houses. The district of Chura is particularly famous for the production of silk Kurrea (the Kelea of the above map), the Kereja of Swahlenberg and the Karia of Rennel, is four days' journey S.S.E. of Chura, but N.E. of it in the map of 1760. It contains 4000 houses. Yangee-kishlak, the sixth city, is four days S.S.E. of Kurrea or Karia, and contains 1000 houses. We cannot identify *it with any known position. We can identify five of these with the account we have given of the cities of Khotaun, and with the map of 1760. Takhoobooee is not mentioned by Moorcroft's informant, but* we can identify it with the Tagh of Izzet Oolah to the S.W. of his Kiriya or Karia, and the Yangee-kishlak of Moorcroft may perhaps correspond to the Niakishlak of Izzet Oolah, though placed in a direction quite opposite; but it must be remembered that in both cases it is wholly hearsay geography. In Izzet Oolah's Itinerary, reported from Yarkund to Khotaun, the stations are eight, and in those of Moorcroft seven. The first station in the latter Itinerary is Karakash, which Moorcroft seems to identify with Karghalick, or the city of crows; but this is a manifest mistake, as Karghalick is not on the road to Khotaun at all, but on that to the pass of Karrakoorum, at the junction of the river of Misar with that of Yarkund. At seven cos distant from Karakash, on the road to Choulak, the face of the country is covered with a deep fine sand, extremely light, and so subject to shift and to efface all the common marks of a road, as to have rendered it necessary to mark its line by a double row of wooden posts, which reach uninterruptedly to Karakash, the first city of Khotaun. This agrees remarkably well with the Jehan Nooma, which says that for six days' journey the route from Yarkund to Khotaun the country is a perfect desert, the three first days of the route being through a well-inhabited country. Eight days' journey to the S.S.E. of Yangee-kishlak is a district abounding in gold, in grains and masses, in collecting of which, from 500 to 1000 men are employed by the emperor of China. Khotaun is supposed to contain this and other metals; but, if the inhabitants be acquainted with any mines, they either conceal them, or the produce will not repay the cost.

The population is chiefly employed, as in the days of Marco Polo, in agriculture, manufacture, and commerce; and by no means warlike. The domestic animals are horses, numerous and hardy, but of a small size; yaks, or the Tibetian bulls, are bred in the mountains, and common neat cattle on the plains; vast numbers of the doombas or broad-tailed sheep are reared; their wool is very fine but short, as they are shorn twice a-year. Shawl-wool goats are equally numerous, and their fleeces are said to be at least equal to those of Ladauk. Wild animals are said to abound of various kinds. They have camels of a large size, with two humps, generally of a brown colour, but sometimes yellow, and so swift, that men mounted on the horses of the country can seldom overtake them, if they get the start but a little. They are hunted for the sake of their flesh, which is said to be of a delicious flavour, and much relished by the natives; cloth is made of their wool or hair. The Goorkhoor, or wild ass, is common, and also many varieties of deer, of which the musk-deer is one, the produce of which is proverbially fine, for who has not read or heard of the musk of Khotaun? That most terrible of feline animals, the royal tiger, roams on the mountains of Khotaun. Leopards and wolves are numerous; yellow bears are not numerous, and of black bears there are none. Game is abundant of foxes, hares, and other small quadrupeds, and feathered game is superabundant. Fruit-trees, of all the sorts common in the S. of Europe, are raised in the gardens of Khotaun; as vines, which are vastly productive, melons of large size, and well-flavoured; with pomegranates, plums, peaches, pears, apples, and apricots. Wheat, barley, maize, pease, and carrots, are largely cultivated, but the soil is too dry for rice, of which none is raised. The few forests which exist hardly deserve *the name, as there are few timber trees in them, and these of the same kind with those of Ladauk, as poplars and willows; but the mulberry everywhere abounds, and a vast quantity of silk is raised there, though a* fine white cotton seems to be the staple produce. The manufacture consists chiefly of woollens, camlet, cotton and silk cloths. The woollens, however, are generally thick and coarse, and by no means approach the nature of our European broad cloths. But the felted cloths are large, fine, and well got up. Cottons of a coarse kind are made in vast quantities, both for home use, and for exportation; they are sent from every house to Pekin in commutation for the capitation tax. The circulating medium is silver and copper coin; uncoined gold is also used for the same in grains and masses. The revenue paid to the Chinese government consists of a capitation tax, and a tax on agricultural produce; but silk and garden produce are exempted. This latter is one-tenth of the whole produce. Khotaun has a commerce with Russia, through the medium of Bukharian traders, in raw silk, both white and yellow, and not less than 1000 camel loads of undyed cotton thread are annually sent to Russia, through Bokhara and the Kirgeesian steppes. From Bokhara 500 large horses are annually imported into Khotaun. With Andidjan, Yarkund, Auksoo and Eelah, Khotaun has extensive commercial intercourse in silk and cotton cloths, raw silk and cotton thread; vast quantities of sheep-wool are sent to Yarkund, where it is wrought into felts; and rice and cast-iron pots for kitchen use are received in return. Droves of Kalmuc horses are imported from Eelah and Auksoo; to the former alone, Khotaun sends from 200,000 *to 300,000 bales of* coarse cotton cloth annually; the length of each piece is from 7 to 8 guz, 12 gurooks broad, and one rupee per piece. These are sold at Eelah to the Kalmucs and Kirgees for money, or exchanged for cattle. This is the cotton called Bezi at Eelah, and about 50,000 sheep are annually brought by the Kalmucs (Kirgees) to Eelah, and the rate of value is one piece of this cloth for a sheep, three for a cow, and six for a horse. From 10 to 20,000 three year old geldings are brought by nomade hordes to Eelah for sale, from 13½ to 14 hands high, and are sold in droves of 12 for a yamboo, or ingot of silver, or at an average of 15 rupees for a horse, rating the yamboo at 180 rupees. The commerce between Hindoostaun and Khotaun was once, it is said, very extensive, but when the difficulty of communication across the various ranges of the Himalaya and the Kwenlung are considered, it seems evidently impossible. A route of this reported communication is given in this hearsay communication, between Yarkund and a place named Surree-keea, in the mountains of Khotaun; and that it passed by Rodauk and Ghortope, but beyond these places information stopped. But on comparing this route with that travelled by Izzet Oola, and given from his written communication in the Journal Asiatique of Paris by Klaproth, from Ladauk across the Kwenlung or Karrakoorum to Yarkund, we find, that N. of the Col, or pass of Karrakoorum, the route goes N. to Yarkund, N.E. to Khotaun, S. to Ladauk, and S.W. to Baltee or Little Tibet. Therefore the route from Yarkund to Khotaun, must be S.E. and not S. But Surree-keea is placed by Moorcroft half-way between Yarkund and Karakash; and must therefore be S.E. of Yarkund, and what is more, is said to be 10 stages, or 124 cosses from that place. By this means Karakash would be double that distance from Yarkund: yet in the reported route given in the same communication from Yarkund to Khotaun, Karakash is given at only 112 cosses from the former; a plain contradiction to the other statement. But so far is Surree-keea from being on the route to Karakash, that, on the contrary, it is on that from Yarkund to the pass of Karrakoorum, S. and S.W. of the former. The very first place on the route, named Karghalik, shows it; which in Izzet Oola's route from Karrakoorum, is placed 19 hours journeys S. of Yarkund. The next place we recognize in this hearsay route, is Kathau Ourtoung, which is the Ortong of Izzet Oola, or the Chinese custom house, belonging to the district of Yarkund, 6 hours' journey S. of Karghalik, or 75 S. of Yarkund, or 50 B. miles, reckoning 2 miles to each cos, and a cos to the hour, which, in such a mountainous region, is fully sufficient for a loaded caravan. Now in Moorcroft's communication, this Ortong or custom-house, is given at 68 cosses or 136 B. miles from Yarkund, or 90 miles beyond Karghalik, instead of only 6 hours' distance as in Izzet Oola; and as he travelled in person the whole road, and kept an exact journal of each day's march, and the time occupied in going from one place to another on the road, we have no hesitation in preferring his itinerary and using it, as far as we can identify the places in his route with those of Moorcroft, as a corrective to the latter. The next place mentioned in the latter is the Kara Direa or Black river, 20 cosses beyond the Ortong. Here the Karakash Direa or Daria, or Black-stone river of Khotaun, is confounded with the river of Misar, which comes from Chiraghsaldee, and which seems to run eastward to Misar, and thence N. to Karghalik where it joins the river of Yarkund. We have just to compare Izzet Oola's route, to see and know, that the river of Misar is not, nor can be the Karakash Dirra, or river of Black Jasper. Beyond this river is Shaheed-oola-khodja, 12 cosses, the Chehid-oola-khodjah of Izzet Oola, where it is placed on the river of Yarkund. within 6

marches of its source. But in this new communication, Shaheed-oola-khodja is placed on the Karakash Direa, within 24 cosses of its source: as this river was before confounded with the Misar river, a tributary stream of the Yarkund river, so here again it is confounded with the Yarkund river itself; a notorious error! as the Yarkund river, for the most part, runs N.W. to Shaheed-oola-khodja; whereas, on the contrary, the Karakash rises, and must so, to the S.W. of the Pass of Karrakooroom, and runs N.E. to the region of Khotaun, and city of Karakash. When such a notorious mistake is made, as that of confounding the Karakash Direa with the river of Misar, and then, as if to make it still more conspicuous, with the Yarkund river itself, what confidence can we have in this reported communication of Mr Moorcroft? Surreekeea is then placed 24 cosses, as it would seem, E. of Shaheed-oola-khodja, and at or near the source of the Karakash Direa.—This place is said to be famous for its quarries of jasper or agate, once much used for drinking cups, or ornaments for the person. Let us hear Izzet Oola. Having reached Aighur-saldee, on the right bank of the Yarkund river, five days' journey down the Yarkund river, he continues the march thus, "Bagh-Hadjee Mohammed 9 hours' march N. W. of Aighur-saldee on the right bank of the river; it abounds in wood and forage. There is seen on the route a place called the Djangal-Kirghiz, or forest of the Kirghiz, where are ruins of old buildings; the people so named dwelt there before the Chinese made a conquest of the country. Nigh this—the forest of the Kirghiz—a defile opens up, which leads to the tomb of Shaheed-oola-khodja. A day's journey (in the French edition of this, it is *a une nuit de distance d'ici,* a night of distance from this,) from this (the Djangal-Kirghiz) there is a mine of yechm (oriental jade): I met several people coming from Koksar to search for the stone yechm. After passing the forest of the Kirghiz, we arrived at a pass on the left, which strikes off to Sirkoul, (Sarikol or Surrikol) on the confines of Badakshaun. This is in all probability the place called *Surreekeea* in the reported communication, and itinerary there given, and if so, it is neither in the mountains of Khotin, nor at the source of the Karakash Direa, but on or nigh the Yarkund river, and in the vicinity of a pass leading W. to Sirkoul, and therefore far W. of the Karakash river." Four hours' march N.W. and W. of Bagh Hadjee Mohammed, Izzet Oola left the Yarkund river to the left or W. at a place called Koulan, which there runs W., at the same time that he was going N. If, as the report says, the road from Khotin to Hindoostaun passed by the way of Surreekeea,—and if, as we have seen from a careful inspection of Izzet Oola's route, Surreekeea is not at the source of the Karakash river, but 6 or 7 days' journey N. and N.W. of the source of the Yarkund and Pass of Karrakooroom, and consequently far to the N.W. of the Karakash river,—and if, on arriving there, the road turns S.E. across the Kwenlung, and then as far S.E. as Rodauk and Ghortope, before the traveller can go across the Caillas and the Himmaleh, to enter the valley of the upper Ganges, it must be a most tremendous detour indeed,—it cannot be. If Khotaun is to the N.E. of the pass o Karrakooroom, the route will of course be in that direction. Nay, wha is more, we have a route in Moorcroft's own account of his journey to Ghortope, which will answer the purpose much better. Speaking of the dress of the Wazir's son at Deba, which consisted of a great loose gown of woollen stuff, striped, blue, yellow, red and green, about a finger's breadth alternately, he tells us that it was said to be manufactured a Guinnak, the capital of Chinese Tartary; and Guinnak is marked on the map of his route at 20 days' journey N.E. of Ghortope. Now Guinnak is not the name of a city, but of a region, and is the Tibetian appellation for Chinese Toorkistaun. And, by the reported communication respecting Khotaun, woollens compose a principal branch of the manufactories of Khotaun, as both sheep and shawl-wool goats are numerous in that district. Coupling this with the fact that the Bhoteas received all their woollens from Guinnak, there can be no doubt but the city of Iletchee or Khotaun is the place intended. If so, we have a route of 20 days S.W. from Khotaun to Ghortope, Ghortope being in 80° 23′ E. long., and 31° 38′ N. lat., and Khotaun 80° 35′ E. long., and 37° N. lat., or 13° to the E. of Ghortope, and 5° 22′ to the N. As Ghortope is nearly 2½ degrees to the E. of the pass of Karrakooroom, and the latter is said by Izzet Oola to be S.W. of Khotaun, it is probable that the route from Khotaun to Ghortope is nearly due S. At any rate, it is much more rational to think that the route from Khotaun to Hindoostaun should go S. to Ghortope and the pass of Nitee, than by the circuitous route of the Karrakooroom pass, or the still more circuitous route of Surreekeea, and much more practicable, as the descent of the Kwen lung must be much less towards Ghortope, than towards Ladauk, as the site of the former is more than 15,000 feet above the level of the sea; and, if the route to Cashmere be intended, it is shorter and more practicable to take the route of the Upper Indus, by Rodauk to Ladauk, than that by the pass of Karrakooroom and the course of the Shauyook.

The account of the rivers in this report is deplorably erroneous and confused, and Mr Moorcroft has been totally out in his etymologies. In the account of the first river of Khoten, called the Karakash Dereea—which is here confounded with the Talee Moo, or river of Yarkund—he tells us that *kash* in Toorkish means river, and that Karakash signifies the same with Kara Dereea, the Black river. *Kasch*, in oriental Toorkish and Mongolian, signifies stone, and particularly jasper; Karakash, therefore, means Black Jasper, and the river is so called, because of the black jasper or black Yu which is found in its channel, sometimes in masses and sometimes in small pebbles. The range where the Toghree Soo rises, is called Karlik Duvan, or Icy mountain, because *karlik* means 'the place of snow,' and *duvan* 'mountain.' But *karlik* means no such thing. It is the Toorkish *Karalik*, the place of darkness or blackness, and, therefore, *Karlik Duvan* means 'the Dark' or 'Cloudy mountain,' from the perpetual mists which envelope its sides or summits. The term *duvan* is presented to us in the various forms of *duvan*, *dawan*, *deevan*, *daban*, and *dabahn*, which last is the true orthography, and is a Mongolian word, denoting a ridge in opposition to a peak, and also a mountain-pass, and corresponds to the term *tabahan*, so frequently met with in the maps of Du Halde. This total want of uniformity in the orthography of Oriental names is a very great annoyance to readers, and causes no small confusion in their minds, as they are unavoidably led to the conclusion of a difference of place or thing from the diversity of orthography.

Respecting the Talee-Moo, or river of Yarkund, the common trunk of all the Bukharian rivers, the account given in this communication is so monstrously absurd, and so much at variance with all former accounts of that region, that it must be rejected at first sight, as unworthy of all credit. We can form a pretty general, though not particular account of its course, from Izzet Oola, who travelled along it from its source, immediately to the south of the pass of Karrakooroom, for eight successive days, to a place called Koulan, where he left it running to the west. At Karghalik, 19 hours' journey south of Yarkund, where Izzet Oola again saw it, it is joined by the river Misar, and the joint stream passes Yarkund to the N.E. Beyond this point we know nothing of its particular line of direction; but as all former accounts concur in assigning the lake of Lop as the grand receptacle of its waters, it must run N.E. Respecting the river of Kashghar, whether it joins the river of Yarkund, or is lost in the sands, we know not, and this new communication never mentions its name. But what is strangest of all is, that the river of Yarkund, after receiving the rivers of Khotaun, ten days' journey to the E. of Yarkund, receives that of Aksoo, three days' journey farther E., which is said to be composed of two main streams which unite at Yenghee Toorfaun, the one from the country of the Kirghees, and the other from the vicinity of Eelah, and that the united stream runs three days' S. to Auksoo, and other five days' S. to its junction with the triple stream of the Karakash, Yooroongkash, and the river of Yarkund, and then the whole combined runs E. by Baee (Pai) Sairim, Koochey, Karachar, Ooroomtsee, and Eskee Toorfaun, for a course of 47 days. Eskee Toorfaun is consequently 47 days' E. of Yenghee Toorfaun, not including the eight days' bend to the S. from the latter,—a most monstrous error, as the two cities so called are but a few miles asunder, according to Izzet Oola's information, and the name of Yenghee Toorfaun does not appear in Timkowski's account, nor in the map of 1760. We never heard, or saw, or knew, that Ooroomtsee and Toorfaun were on the banks of a stream composed of all the rivers of Bukharia combined in one mighty trunk. No such junction occurs in any map, whether of D'Anville, or Strahlenberg, or Father Hallerstein, nor in any extracts which have been made from the Daisynitoundchee. We are next informed that it runs E. from Eskee Toorfaun, through an uninhabited tract, in some parts mountainous, in others sandy, in others woody, 40 days' journey to Kamool (Hamee), a very large city in China. This is really wonderful, that Kamool should have stood in all time past on the banks of such a large river as said above, and that this, if true, should never have been mentioned by historian, or traveller, or geographer, whether Chinese, or Mussulmauns, or Christians; and that Kamool should be 40 days' journey E. of Eskee Toorfaun by the course of the stream, whereas in Du Halde it is said to be only ten days' journey to Kamool from Toorfaun, and in Timkowski the travelling distance is stated at only 1130 [illegible] or almost 350 geographical miles. Kamool, besides, was visited by the Jesuit fathers, Jartoux, Fridille, and Bonjour, in 1711, in the reign of Kaung-hee, who drew the map of this region all the way from Soochew W. to 23° of long. W. of Pekin, and more than half a degree to the W. of Kamool, in person, and who could not possibly be mistaken in the site of Kamool, which, by them, is placed on a small stream running S. and N., called the Hara-oossoo, or Black river; and not a single stream of any consequence occurs in the whole route from Kamool to Toorfaun, and none such are marked in the map. From Kamool, continues this wonderful piece of oral communication from the Tooranee merchant, the river runs still easterly in China, 20 days through a desert greatly deficient in water, and reaches Lunjoo (Lanchew) a city containing 50,000 houses. This is still more extraordinary, as Lanchew is more than double the distance from Kamool that Kamool is from Toorfaun, being nearly ten degrees E. and more than six degrees S. of the meridian of Kamool; and yet the river is said by this Tooranee gentleman to reach

Lanchew in half the time that it takes to run to Kamool from Toorfaun. Lanchew, besides, is placed in the Jesuits' map of Shinsee, on the banks of the Whangho, and we have not the smallest reason to doubt its accuracy; and if we are to doubt the accuracy of maps, drawn on the spot by persons every way qualified by science for such operations, on the hearsay communication of an ignorant merchant, we must lay aside all confidence in any maps, however accurately drawn; even those of Cassini and Mudge, if any such similar hearsay communication should unfortunately reach our ears. But we are not yet done with this sort of information. We are further told, that the river runs still 32 days' E. to Soochew, and then—*mirabile dictu!*—takes a most confounding sweep to the west, and joins the Irtish. Now Soochew is not to the E. but to the N.W. of Lanchew, more than 300 miles in direct distance, and on the banks of a small stream which runs N.E. to the Kwendeeloun or Etzine, which latter runs N. and is lost in a small lake in the desert. Moorcroft, himself, admits the improbability of such a vast sweep: But he qualifies this by saying, that probabilities however are of small importance, when opposed to the contrary and positive assertion of a respectable reporter. But we have more than mere probabilities opposed to the assertion of this *respectable reporter*. We have reports, too, perfectly opposite to his, and these from very respectable reporters too; and if Mr Moorcroft had either seen or examined these as he ought, he could not for one moment have had doubts as to the existence of such a city as Khotaun, nor of the course of the Yarkund river into the Lop lake. The very existence of such doubts in his mind, and the facility with which he received such information on such slender authority, in direct opposition to all that has been written or read on this subject, is a mournful and clear proof of the ignorance of our countrymen of the geography of Central Asia, in which we are far, very far behind our Continental rivals. All the proof he has given of this, rests on the authority of a Yarkundee merchant, who accompanied the Hakim of Yarkund to Pekin and back; and this precious oral information was communicated to a Tooranee merchant at Ladauk, an acquaintance of Mr Moorcroft, who, in his turn, communicated it to him, who, in his turn again, seems to have thought it of such importance, as to communicate it to his employers, the Hon. East India Company. His first informant, the Tooranee merchant, who made him doubt of the existence of Khotaun, was never farther, it appears, than Auksoo; and all the ulterior information was obtained from the Yarkundee merchant. Izzet Oola also saw a respectable Moollah at Kashghar, who had gone with the Vang of Kashghar twice to Pekin, and who had kept notes of his relays on the road, which he communicated to him; but, as Klaproth well observes, it contains nothing new. From such specimens as appeared in the Bibliothique Geographique Universelle, the remark is just. It appears clear to us that Mr Moorcroft was deficient in the previous geographical knowledge of the regions he wished to visit, and of the Toorkish, Persian, and Mongol languages, as is clear whenever he attempts to explain names. Had the communication now given in the Royal Geographical Journal been confined to the region of Khotaun itself, it would have been more judicious, as it is valuable so far; but to have given the whole of it, as it now appears in that Journal, does little credit to the judgment of the selectors, whoever they were, as such a specimen of geographical ignorance and nonsense has never been surpassed. We have been compelled to discuss it, as appearing in such a respectable Journal, it will be read by many and be believed by some; and as it directly overthrows all we have said on the geography of Chinese Toorkistaun, and tends to call into doubt that part of our work. It is a just remark of Mr Pinkerton, our respectable predecessor in the path of geography, that next to the folly of *writing nonsense*, is that of him who undertakes to refute it; and some *will think* that after what we have said on this subject, that the remark will *apply to* us. But it must be remembered, *that whatever we have said of the matter*, it has been ushered forth to the world under the sanction of that Society, as containing additional geographical information; and as our work is expressly on a similar subject, we were necessitated to notice it, in so far as it interfered with our statements. We dismiss the subject, expressing our sorrow that ever such a communication appeared in that Journal, and the keen disappointment we felt on perusing such a document from the pen of such a man as the late lamented Mr Moorcroft.

Respecting the upper valleys of the Indus and Sutluj, little additional knowledge has been gained. In our account of the state of *Khofalun*, we find that we were mistaken in placing it N. of the Karakooroom pass. This arose from our ignorance at the time that there are two places so called; the one above-mentioned, which is called Khofalun Toshgoon, or the halting place of Khofalun, to distinguish it from the other Khofalun, the chief town of a small principality between Ladauk and Little Tibet, and three days' journey from Baltee, the capital of the latter. This petty state contains 2,000 houses, and 12,000 inhabitants. We also now find, both from Mr Moorcroft and Izzet Oolah, that the Shauyook, or northern branch of the Upper Indus, does not join the river of Ladauk above, but below Ladauk; for Izzet Oola fell in with the Shauyook at Akham, a village of 20 houses on the left bank of that stream, 16 cosses E. and N.E. of Ladauk.

None but the late Mr Moorcroft have yet penetrated to *Ladauk*. Mr Gerard, who had previously made several unsuccessful attempts to reach it by way of the Speetee, Spiao, and Paratee rivers, made another attempt in 1829, but equally unsuccessful, by the way of Stanpore, on the Beyah. In the middle of July he crossed the Sutluj by a rope bridge, where the bed of the stream is 2,500 feet above the sea, traversed the mountain state of Cooloo, across the lofty mountain ridge which throws off the streams from opposite sides to the Sutluj and Beyah, at an elevation of 10,700 feet. On the 27th of July he struck the bed of the latter stream, the ancient Hyphasis, at the ferry of Koortoor, where that river has a broader expanse of bed than could have been expected so near its source. At Stanpore, in the capital of Cooloo, he encamped near the margin of the river, upon a green sward, shaded by magnificent elm trees, the very spot where the late Mr Moorcroft pitched his tents. Here the configuration of this Alpine tract is gigantic, and its frontier well defined. The Sutluj is southward; the Hyphasis westward; whilst the Himalayan crest forms a magnificent limit on the N. and opens into countries whose name is scarcely known. Crossing the Beyah at Stanpore, he pitched his tent on the slope of the southern Himalaya, at an elevation of 10,000 feet, surrounded by luxuriant vegetation and flowering herbs, on the 8th of August. The road up to the crest is one long-continued stair, constructed by a fakir. On the 9th, he crossed this crest at the pass of Rotang, turning a little to the right to the consecrated rills of the Beyah, which are collected in a small basin walled round, for the purposes of ablution. Here is the source of the river which, at the distance of only five marches below, presents so magnificent an expanse. Here an offering must be presented to the genius of the stream. The altitude of this source is 13,000 feet. Descending into a ravine, the bed of the Chandra Bhaga, or river of the moon, was crossed by a cradle bridge. Here the climate undergoes a change, and the configuration of the country assumes a new form, and the eternal snow gradually recedes to the summits of the mountains. Even the skies have a deeper and more resplendent hue. Nothing was green but the crops, the vegetation being scanty and arid, and the rays of the sun powerful. In place of luxuriant vegetation, and slopes covered with magnificent pines, as before, not a tree but the drooping willow, which is planted here, was now visible, the soil quite bare of verdure, and the air dry and elastic. On the 13th of August, Mr Gerard reached *Tandeh*, the capital of the Tartar state of Lahoul, on the bank of the Soorey Bhaga, or river of the sun, the incipient stream of the Acesines or Chunaub, which he passed, like Moorcroft, by a fragile bridge of osier twigs. Tandeh has an altitude of 10,000 feet. Here Gerard was confined 15 days by a fever. On the 29th of August, he resumed his route up the Acesines, and on the 2d of September reached the last inhabited spot of the country, at an elevation of 11,000 feet, where the valley was prettily enamelled with villages and cultivation. It was now continued sunshine, and the temperature increased with the elevation; though still in the vicinity of enormous masses of snow, and at Darcha, the highest village in the dell of the Acesines, the reflection of the solar rays from the barren sides of the rocks raised the temperature to 84° in the shade. On the 8th of September, Gerard crossed the Paralas range at an elevation of 16,500 feet, and traced the Soorey Bhaga, or Acesines, to its source in a lake only 300 feet lower. This is the same range crossed by Moorcroft at the pass of Barala-ha. Here the wind blew piercingly on one side, whilst the solar rays were scorchingly ardent on the other; the extreme thin, dry, and cold air checks the vital energy with fearful rapidity.

The 6th day after leaving the inhabited limits, Gerard ascended the Laitche-Lung range, at an elevation of 17,000 feet, which rose up abruptly like a vast wall from the bed of the Chander-Bhaga, another affluent of the Acesines. Along this tract are found various marine fossil remains, at an elevation of 17,000 feet. Beyond this, is a lofty plateau called the *Ropdshoo*, which presents no other inhabitants than shepherd tribes, who live in the valleys under black tents, at a mean height of 16,000 feet. The whole country is formed of mountains of varied elevations, and offers no other continuous surface to the eye but that of lakes. Here Gerard pitched his camp at an elevation of 16,000 feet, on what [redacted] termed the plateau of Tartary; as the Laitche-Lung range may be denominated the Northern limit of the basin of the Acesines, and consequently of Hindoostaun, and the southern boundary of the Ladauk territory; but in front of Gerard's encampment rose another range, higher than any he had crossed, which separates the district of Lehpro, from that of Ladauk, and which had a mean altitude of 19,000 feet, without any snow on its summits. Here the soil is almost without any vegetation, baked hard and thirsty; but on the elevated ravines of the neighbouring mountains are flocks of shawl-goats and yaks, reaping abundant nourishment from land formerly imagined by theorists to be covered with perpetual snow. The skies were of the most resplendent indigo tint, and the air highly transparent. Gerard's attendants, who expected a [redacted] after crossing three successive ranges, the Foang, the

Paralasa,* and the Laitche Lung, beheld with consternation alps on alps rising interminably,—group succeeds group, till the farthest range of vision is stopped by a snow-clad chain which sends its northern waters to the Indus. Here a wild horse was seen, which was fired at by one of the party, but almost no report was heard, sound being so feeble in this rarified atmosphere; a pack of wild-dogs, quite red, was also seen stealing alongst a gully. Here, whilst Gerard and his attendants were now within three days' march of the Indus and Ladauk, they were suddenly arrested, on the 17th September, in their progress, by the vizier of Ladauk, who, before their arrival, had crossed the last mass of rock which separates the two districts, with an official message to stop his entrance into Ladauk. He had an interview with Gerard and his party that day, and the day after invited him to dinner in his encampment; but in impeding his farther advance, the vizier seemed to rely more on that gentleman's good feeling than any exertions of his own; remarking, that he would not oppose it by rude interference, but that the consequence would be disgrace and discredit *to him.* They were otherwise good friends, drank tea, ate beef, and smoked together; still, however, he was very anxious to see him depart, and his eagerness to equip and transport them into the Speetee, by a route skirting the Chinese confines, evinced his great anxiety to get him fairly out of his sight, and away from the precincts of his capital. On the morning of the 19th, the yaks being ready, after the ceremony of smoking pipes together, Gerard and he parted. The route now became excessively uncomfortable from exposure to the cold night air in such a savage country. Southwards, towards the Speetee, the landscape appeared very sharply peaked, and in clusters of white summits, but in the north-east, the mountains were of a vast contour, and the snow more uniformly diffused. On the 20th of September, he lost his way on the banks of a salt lake, and passed the night in a sheep-fold, without food or shelter. "Next day," says he, "we were covered with snow, from which we despaired of escaping, until the sun should appear to melt it; we discovered the camp in a pass at an elevation of 16,000 feet. Here my situation became more alarming; I was confined to my bed, and all around me was snow, on our flanks and in front we were hedged in by enormous mountains, the lowest level of which was lake Choomoorcreek, 15,000 feet high. It is a beautiful sheet of water, and we skirted its banks for nine hours; another lake was covered with wild-fowl, which screamed like sea-birds on the approach of a storm; the borders of the lake were scattered over with the black tents of Tartar shepherds, and vast flocks of sheep, shawl-wool goats, horses, and yaks.

"I cannot conceive what these shepherds," says he, "do during winter. By day they have to contend with a burning sun, and at night against a temperature which varies from 7° to 18° and sometimes 13°, under the tents at a height of 17,700 feet. We were often surrounded by wild horses, which never allowed us to come so near as to catch them. They are of a singular species, between the mule and the ass, resembling the deer in their spotted colour as well as their habits, as they spring from peak to peak with great agility. I am inclined to consider them as a species of zebra. The snow-line is often 20,000 feet at least; to the N.E., however, we occasionally see white summits of an *incomprehensible size and height*, at the contemplation of which the imagination wanders, inspired by the indefinite nature of the objects. I was within three days' journey of the Indus, and shall always regret the circumstances which prevented me from beholding this solitary and inaccessible river." They at length reached a dell which opens upon lake Choomoorcreel, but which, except towards that saline expanse, is land-locked on every side; whilst the lake itself spreads out its blue expanse to the foot of very precipitous mountains, forming a sharply defined and lofty boundary to the valley of Speetee, through the windings of which Gerard's route lay. Here Mr Gerard had occasion to make some remarks respecting a certain anomaly in the condition of some lakes at that vast elevation, and which confirm the veracity of Mr Moorcroft's assertions regarding the Mansarowar lake. "The whole circumference of the lake of Choomoorcreel is embayed (surrounded) by mountains, but hillwards, on its north-eastern shore, the mass of elevated land rose very abruptly from the water's edge and entered the regions of snow, which have a uniform margin of 19,000 feet. Neither this nor the other lake has any efflux, and were we less acquainted with the course of the Sutluj, we should here at least have a verification of the fact, which Mr Colebrook and other reviewers (as Barrow) received with cautious credence, and even actually discredited, of Mansarowar being *entirely land-locked*, conceiving that, in so elevated a region, evaporation was insufficient to carry off the supplies derived from the neighbouring snows: thus forgetting or not knowing, that the absorbing power of the atmosphere is infinitely increased by its rarefaction; and, in tracts so singularly arid that the traveller beholds ice, permanent and unthawed, in a temperature of 50°, torrents frozen fast in their fall in a medium often 20° warmer than the graduated freezing point. Throughout India, in July and August, though the thermometer often points above 80°, evaporation is checked in spite of this heat; such being the density of vapour at so low a level that a damp mouldy surface is thrown over every thing. On the table land of Tibet the air is so dry that frost is not visible upon the soil or grass, though the thermometer may stand at the zero of the scale, as I have witnessed. Few and small streams fall into the Choomoorcreel at this season; but the dry channels of water-courses were crossed, which showed an expanse of bed that argued their powerful body at some period of the year. The highest water-mark on the shore did not appear to exceed five feet, and I have no belief that the surface subsides lower; so far from truth was the assertion (of Moorcroft's reviewers) that the Mansarowar must be at its maximum height in August, that this fact occurs at a period diametrically opposite, or at least in the spring, when returning warmth breaks up the frozen surface and thaws the immediate snows. Moorcroft's remark is therefore verified, however puzzling it appeared to reviewers in another hemisphere entirely ignorant of the physical constitution of the regions they ventured to criticise. There is no just arguing from the physical constitution of European regions to those of the Himallah and Tibet, there being no analogy between them.

THE END.

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A PHYSICAL, POLITICAL, AND STATISTICAL ACCOUNT

WORLD AND ITS VARIOUS DIVISIONS.

BY JAMES BELL,

AUTHOR OF CRITICAL RESEARCHES IN GEOGRAPHY, EDITOR OF ROLLIN'S ANCIENT HISTORY,

ILLUSTRATED BY A COMPLETE SERIES OF MAPS, AND
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